TerraConsult

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WOOD TREATMENT PART A2 PERMIT VARIATION APPLICATION

INSTALLATION REPORT

Prepared for

Charles Ransford and Son Ltd

WOOD TREATMENT PART A2 PERMIT VARIATION APPLICATION

INSTALLATION REPORT

January 2018

Prepared for

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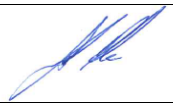
			Approved by: John Baxter		**14/01/18**
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CHARLES RANSFORD AND SON WOOD TREATMENT FACILITY

PART A2 PERMIT VARIATION APPLICATION: INSTALLATION REPORT

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APPENDICES

1 INTRODUCTION

1.1 Regulatory Context

1.1.1 TerraConsult Limited (TerraConsult) was commissioned by Charles Ransford and Son Ltd (Ransfords) to prepare an application to vary their Part A2 Environmental Permit (Permit reference EPRA140) to extend the boundary of the installation to include an additional wood treatment facility and provide additional storage within their Bishop's Castle sawmill site. The site currently is permitted to operate a wood preservation installation listed in Part 2 to Schedule 1 of The Environmental Permitting (England and Wales) Regulations 2016 for treatment of >75 m^3 of wood per day.

1.1.2 This report complies with the relevant principles and requirements of a range of guidance including:

- DEFRA (2012) Environmental Permitting General Guidance Manual on Policy and Procedures for A2 and B Installations.
- Draft Sector Guidance Note SG11: Guidance for Wood Products Preservation with Chemicals. September 2013.
- WPC BREF – Proposed Structure
- Wood Preservation Association. Timber Treatment Installations: Code of Practice for Safe Design and Operation. 5th Edition October 2009.
- Shropshire Council Application Form for a Part A2 permit.

1.2 Installation Report Structure

1.2.1 The structure of this report will follow the draft Sector Guidance Note SG11. SG11 identifies all aspects of the wood preservation process and where applicable, proposes the Best Available Techniques (BAT) for managing an activity effectively and with the lowest potential environmental impacts. Each section of the draft SG11 contains a table with BAT references (e.g. BAT 45) and accompanying description of how that activity should be managed. Where an aspect of the activity currently meets or will meet a BAT requirement, the BAT reference is included in the text.

1.2.2 In referencing this document it is anticipated the requirements of Questions 1 and 2 of the Shropshire Council Application Form to vary an A2 permit will also be satisfied, namely:

- Reference to any water emissions and reference to discharge consents issued by the Environment Agency (Section 4.4);
- a description of the current or proposed technology or techniques employed to reduce the emission and impact on the environment from the proposed change (Section 2);
- identification of the raw and auxiliary materials, other substances and water that will be affected by the proposed change in the activities (Section 4.1);
- characterisation of the effect of the proposed change on each waste stream from the installation and current / proposed measures for minimisation, storage and handling of the wastes (Section 4.3);
- identification of the effect of the proposed change on any potential discharges of hazardous or non-hazardous (former List 1 and 2 substances) from the activity and description of how discharges to groundwater are reduced or prevented (Section 2.4);
- identification of the effect of the proposed change on energy efficiency and provision of measures for improvement (Section 4.5);

- a risk-based review identifying current / proposed systems to be used in the event of unintentional releases and their consequences (Section 3);
- a review of noise and vibration, including source, impact and mitigation (Section 2.3);
- measures to be taken on cessation of the activity to avoid pollution and return the site to a satisfactory state (Section 1.3); and,
- details of the effect of the proposed change on the environmental management techniques, procedures and policies relating to the activity (Section 5.1).

1.3 The Installation - Process Description (Proposed new process)

1.3.1 This installation report concerns only those processes carried out within the extended permit boundary i.e.

- Storage of cut wood prior to treatment;
- Treatment using water-based preservatives; and,
- Storage of treated wood after treatment.

A site plan (drawing reference: 3057/1/002) showing the location of the existing and proposed activity is provided with this report.

Raw Wood

1.3.2 The wood to be treated is prepared in another area of site from raw timber imported by road. Part of this process is subject to Local Authority (LA) controls under a Part B permit under The Environmental Permitting (England and Wales) Regulations 2016 to control air emissions. The logs are stripped of bark, trimmed and cut to required size by a state of the art, fully automated process with appropriate controls to reduce fugitive emissions where practicable. The prepared wood is selected and transported across site to the current timber treatment facility or the proposed timber treatment facility for drying in either of the well-ventilated covered yards immediately adjacent to the treatment building. The covered yard area is to be located to the west of the building. This yard is to be used for further external timber storage for products awaiting treatment. The wood is to be then transferred by forklift to the treatment area via the covered loading bays located to the north east of the proposed timber treatment building. The storage of wood pre-treatment is not subject to BAT assessment in this report.

1.3.3 SG11 classifies the process of preservation of wood or wood products as having two key components:

- **the treatment vessel** which incorporates a loading system (a train of bogeys on rails used at the current and proposed timber treatment facilities at this site (BAT 26)) onto which the wood is loaded and moved into the vessel. These have fail-safes which prevent the process from starting until the doors are locked and vice-versa (BAT 20, 21, 23 and 24).
- **one or more storage vessels**, typically a working vessel (called mixing tanks at the Ransford Site) which hold the treatment agent when it is not being transferred to and from the treatment vessel. The mixing tank where the impregnation production will be diluted to the require concentration has a capacity of 12,000 litres. The working tank filled with the concentrated product has a volume of 95,000 litres.

1.3.4 Wood is stacked on bogeys at an angle to allow free draining of liquid as the vessels empty and to reduce the amount of free product draining in the drying areas (BAT 14). The wood is

secured to the bogeys with strapping to prevent 'wood lift' when the vessels are flooded (BAT 18). The bogeys are stacked to the optimum capacity to fill as much of the space inside the vessels as possible. This makes the process more economical, and reduces the amount of treatment agent required and therefore associated risks (BAT 19).

1.3.5 The automated system manages the entire process, with human interaction limited to its initiation, emergency intervention or general maintenance. This system reports to the operator when liquid is in the vessels, how much and whether it's being pumped in or out (BAT 23). Safety release valves fitted to the tanks (which are pressure tested annually) allow liquid to drain to the mixing tanks in the event of an emergency or equipment failure (BAT 25).

1.3.6 The proposed timber treatment facility to be included in the Part A2 Installation permit comprises a full-automatic Impregnation Plant from Stavelse Metaalbouw NV. The plant has been developed to allow operation without supervision. The technical specifications for the proposed timber treatment facility are attached at Appendix B of this application. Consistent with the current timber treatment facility on site the system operates in accordance with BAT 23 & 25. SG11 describes the key stages to the wood treatment process relevant to the current and proposed timber treatment facilities at Ransford. The stages listed below apply after the wood has been loaded into the vessel.

1. **Initial vacuum.** Once locked in, air is drawn out of the vessel to enable the required uptake and penetration of the preservative.
2. **Flooding.** The preservative solution is allowed to flow into the vessels under vacuum.
3. **Pressure Period.** Upon complete filling of the vessels, the vacuum is released and positive hydraulic pressure is applied to ensure maximum penetration of the preservative. For the proposed timber treatment facility the autoclave is tilted 8 degrees during the impregnation process to facilitate the dripping of superfluous impregnation solvents via groves and shipways.
4. **Initial Drain.** The pressure is released to atmospheric levels in a controlled manner and the liquid allowed to drain to the mixing tanks.
5. **Final Vacuum.** A final vacuum is then applied which draws out the remaining preservative and reduces the amount of free product running from the wood after the process.
6. **Final Drain.** The liquid that is collected after the final vacuum is drained back to the mixing tanks. The air pressure is returned to atmospheric levels and the wood removed.

After Removal

1.3.7 After its removal from the vessel and the bogeys, the treated wood is to be stacked and left to drain / air dry through evaporation on an impermeable surface inside the building (BAT 12 and 27). There is a designated drip area next to the autoclave which allows free liquid to be caught in drip plates and subsequently pumped back to the working tank. The wood removed from the autoclave will be placed on a tilted impermeable surface to allow the liquid to drip off. The impermeable surface is regularly inspected for signs of fatigue and maintained as required (BAT 13). Spacers are used to prevent capillary retention of liquids between the pieces of wood and shaped profiles in the wood or other traps are avoided to prevent accumulation of solution (BAT 15 and 16). Packs of wood are defined as dry if after being lifted by a forklift, no free product is observed to drip from the wood after 5 minutes (BAT 31). For practical purposes a representative pack is used as a sample of each batch of treated wood (BAT 32). The vehicles used in any treatment / or drying of wood are to be thoroughly

cleaned before removal for service or use elsewhere consistent with the current treatment activity on site (BAT 28 and 29).

1.3.8 This wood is stacked at an angle relative to enable better drainage from the wood (BAT 14). As stated in paragraph 1.3.7 above the wood removed from the proposed timber treatment facility is placed on a tilted surface to allow better drainage of the liquid. The residual free liquid is caught by the drip plates and pumped back into the working tank where it is reused in the treatment of wood. The dried wood is then wrapped and exported as product from site (BAT 34).

1.3.9 The operator has developed a system (BAT 33) which details the following:

- Specific Pack or Batch Identifier;
- Date and time of addition to treatment vessels and removal; and,
- Signature of person accepting wood in a dry condition.

1.4 Process Vessel Cleaning and Maintenance

1.4.1 The operator will wash down the process vessels during the annual 2 week-long whole-site shutdown. Rotary spray nozzles are used to minimise the volume of water used during the cleaning process (BAT 36). No water or liquids used in the wood treatment process will enter external drains nor be directed to sewer (foul or storm). All such water is to be reused in the treatment process and supplement fresh water consistent with the current treatment activity (BAT 37). This is consistent with the process currently utilised at the timber treatment facility already on site.

1.4.2 Equipment is maintained on an ongoing preventative and as-required basis throughout the year. A thorough service including pressure testing of the treatment vessels is also carried out during the annual whole-site shutdown.

2 EMISSIONS

2.1 General Introduction

2.1.1 This following section will address the cumulative impact from the current and proposed facility. A Habitats and Environmental Assessment for the site has been produced to assess the changes in emissions as a result of the proposed additional timber treatment facility on site. This has been supplemented by the Habitats and Environmental Assessment undertaken for the current timber treatment facility. A copy of the Habitats and Environmental Assessment is provided at Appendix D. Atmospheric emissions, comprising point source and fugitive source emissions, have been assessed as the most likely emissions associated with the current and proposed Part A2 activities at the Ransford site. The Environment Agency guidance *'Risk assessments for your environmental permit'* (1 February 2016) available as web-based guidance defines fugitive emissions as '*Uncontrolled or unintended emissions, for which risks include dust, litter, pests and pollutants that shouldn't be in the discharge'.* This is not a definitive list and fugitive emissions can also apply to uncontrolled emissions of potentially harmful substances to groundwater or surface water, or could apply to odour or smoke resulting from a fire.

2.1.2 The draft SG11 is concerned with fugitive emissions including noise and vibration and emissions to:

- Air (VOCs, particulates and odour);
- Surface water;
- Sewer; and,
- Groundwater.

2.1.3 All operations carried on at the current and proposed facility are controlled with the intention to minimise fugitive emissions (BAT 59). Much of the activities are unlikely to result in fugitive emissions defined above. There is potential for accidents to occur at site during normal operation and these may result in potentially harmful fugitive emissions.

2.2 Point Source Emissions to Air

2.2.1 The proposed timber treatment facility will have ventilation stacks which are to provide venting for the area in which the wood is placed after treatment. The current and proposed activities do not use VOC-based chemicals, as discussed below. No point source emissions to air are considered likely from the activities due to limited fugitive emissions from the treated wood. No Emission Limit values are required. BAT 38 does not apply.

2.3 Fugitive Emissions to Air

VOCs (including Organic Solvent-borne surface cleaners and organic solvents)

2.3.1 The current and proposed activity does not use VOC-based chemicals in its treatment process and does not use VOCs in its cleaning procedures. VOCs, requiring the application of Emission and Fugitive limits or consideration against Total Emission Limit values, are not used at site and BAT 61 does not apply.

2.3.2 Volatile liquids are not transferred around site. BAT 62 and 63 respectively do not apply.

Particulates

2.3.3 There are no activities carried out within the application boundary which will generate particulates and may result in a fugitive emission. BAT 60 does not apply.

Odour

2.3.4 The water-based treatment agents listed in Table 1 (Page 13 of this report) do not have a strong odour potential. The proposed activity proposes to use the water-based treatment agents as currently utilised on site. No personal or vehicular respiratory measures are required when operating in the existing building and there is no distinct odour unless standing in the immediate vicinity of treated wood or the mixing tanks. What limited odour is present is not considered to be offensive in nature. The inclusion of an additional timber treatment facility and storage area is not considered to contribute any additional risk of odour based on the low odour potential of the treatment agents to be used.

2.3.5 The large doors to the sheds are open the majority of the time during normal site operations and the proposed facility is also proposed to operate with the main steel access doors open. There would be potential for odours to escape the building if a significant source were present. However the low odour potential of the treatment agent means that odour is not detectable immediately outside of the existing building and it is thus considered unlikely that it will be detectable outside the proposed building. It is therefore in addition very unlikely odour would be detectable at adjacent receptors. BAT 73 is considered to have been be satisfied and BAT 74 is not currently applicable. Odour will be controlled on site in accordance with Condition 25 of the permit.

2.4 Noise and Vibration

2.4.1 SG11 requires the operator to consider and reduce the impacts associated with noise and vibration if they were to be detectable at the site boundary. Noise and vibration associated with this site would result primarily from the movement and operation of site plant and on site equipment during operational hours. All activities are carried out inside a building within the busy and potentially otherwise noisy sawmill complex. The plant has been operational on site in its current form for a number of years and the activities will not change as a result of this permit variation application apart from location of the source of noise/vibration associated with the increase in the permitted boundary. It is understood no noise complaints have been received by the operator or regulator.

2.4.2 The most likely sources of noise and vibration would be fans, pumps and motors, along with general noise associated with vehicle movement or movement e.g. stacking of products pre and post-treatment. To address this at the current facility internal wooden doors were installed across the internal threshold of the treatment vessel outrigger and main building which are closed when the treatment process is active. The proposed new timber treatment facility will additionally operate using pumps creating an additional source of noise. The main activities are all to be undertaken in the building. Sections of the building are bunded by overgrown hedging and self-seeded trees which contribute to mitigation from noise and vibration associated with the operation of the plant.

2.4.3 Mitigation measures such as but not limited to those listed in Table 5.3 of SG11 will be implemented (BAT 115). The noise and vibration emissions from the proposed activities will be controlled in accordance with Condition 24 of the permit for the current activities on site. No additional noise and vibration measures are considered necessary.

2.5 Surface Water / Groundwater / Sewers

2.5.1 There is no link to external drainage (BAT 64). The Operator keeps an ongoing inspection and maintenance programme for all the infrastructure associated with the treatment activity (BAT 70). External yard drainage (essentially the roof guttering) is inspected no less frequently than every 5 years, and annually for the internal treatment areas. This is

implemented within a 2 week-long whole site shut-down where a thorough review of all site infrastructure is made. The main area of concern within the treatment area are the mixing tanks and associated pipework. This is drained of treatment agent and silt / sludge removed by gully sucker for off-site disposal.

2.5.2 The vulnerability of the underlying groundwater and adjacent surface waters has been characterised in the accompanying Phase I and Phase II Site Investigation Reports provided at Appendix C of this application and the Habitats and Environmental Assessment Report provided at Appendix D of this application. The site does not sit within a Groundwater Source Protection Zone. The historical quality of the water course to the south east is good with medium levels of nutrients (data from Environment Agency website). There are no groundwater abstraction licences within 500 m of the site and no potable water abstraction licences within 2 km of the site. There are no deliberate point source emissions of hazardous or non-hazardous substances to groundwater e.g. soakaways, nor is there a direct connection to the surface water or sewer systems where effluent could be discharged deliberately or accidentally (BAT 65).

2.5.3 Consistent with the current facility there is sufficient capacity in the mixing tanks and bunded area of the proposed facility (150% of total volume of liquid stored on site) to contain the liquid if one of the tanks or vessels were to fail and all liquid contained within was to discharge (BAT 68). The mixing tanks are impermeable and resistant to deterioration by the chemicals used in the process (BAT 67). The tanks are all fitted with high-level alarms / volume indicators to prevent over-filling during delivery and all filling connections are within the bunded area (BAT 69). No storage areas are located in the open nor are solvents used. BAT 66, 71 and 72 therefore do not apply. No additional control measures are considered necessary.

2.6 Monitoring

2.6.1 There are currently no processes that are proposed or in operation which produce emissions to air or discharge consents which require monitoring. BAT 116 to 133 and 135 to 139 does not apply.

3 ACCIDENTS

3.1 Requirements of SG11

3.1.1 Accident management requires a review of 3 key components:

- Identification of the hazards
- Assessment of the risks (hazard x probability)
- Implementation of measures to reduce the risk of accidents and contingencies to reduce the impacts should they occur.

3.1.2 SG11 identifies fire and spillage / loss of containment of raw materials as the key risks of concern. The current and proposed timber treatment activities will apply the accident management principles.

3.2 Fires

Risk of Fire: Types of Combustible Materials on Site

3.2.1 The following combustible materials are consistently present at site:

- Prepared green / wet wood;
- Timber post-treatment;
- Packaging (plastic and wood);
- The control cabin and associated ancillary items (furniture, paper etc.); and,
- Fuel in fork lift trucks

3.2.2 The wood pre- and post-treatment represents the most significant proportion of combustible material on site. This wood is however fresh-cut timber with the moisture content associated with green wood. The timber post treatment will have a similar high moisture content and be potentially augmented with the non-flammable preservative and pigments used in the treatment process. Wood awaiting treatment and during treatment is bound together with plastic strapping. After drying has completed, the strapping is retained and the wood is enclosed in plastic wrap. The plastic wrap is not stored within the confines of the building. Lubricating oils are required to maintain the operational efficiency of the wood treatment vessels and other equipment. The control cabin is of wooden prefabricated construction and contains other flammable items such as furniture, general stationary, documents and electronic equipment such as computer terminals. The fork lift trucks which operate within the building are powered by diesel. The diesel is not stored within any of the buildings on site.

Storage Capacity

3.2.3 The typical volume of product stored in the original timber treatment facility is approximately 200 m^3. The proposed timber treatment facility proposes to store similar quantities. Additional quantities of untreated wood are stored currently in the undercover area on an impermeable surface external to the existing treatment building. It is proposed to undertake a similar process at the proposed timber treatment facility to the south. The storage of wood externally enables additional air drying of the wood prior to treatment. Treated and plastic-wrapped wood is normally exported from site directly. The additional quantities of wood associated with the proposed treatment facility will be stored in accordance with fire prevention guidance as currently implemented on site.

Causes of a Fire

3.2.4 Sources of fire ignition can arise from the following:

- arson or vandalism;
- plant or equipment failure;
- electrical faults;
- naked lights;
- discarded smoking materials;
- hot works, e.g. welding, cutting;
- industrial heaters;
- hot exhausts;
- damaged/exposed electrical cables;
- neighbouring site activities; and
- ignited materials received at the site.

3.2.5 Any of the causes detailed above has the potential to ignite flammable materials at the site, the wood product represents the highest risk and adverse consequences. The consequences of a fire are discussed below with mitigation measures detailed in a further section.

Effect of a Fire

3.2.6 The effects of a fire may be both immediate and long term, presenting a significant burden for the operator and regulatory agencies:

- firewater run-off transporting pollutants to surface water and groundwater;
- thermal radiation harming nearby properties and residents leading to fire spread;
- creation of hazardous waste by the fire and impacts of firefighting;
- explosions and projectiles harming sensitive receptors and spreading the fire to unaffected areas;
- transport disruption resulting from road and rail closures;
- nuisance from smoke, odour and particulates; and,
- threat to life and property.

Preventing Fire - Procedures

3.2.7 The Fire Management Plan (FMP) for the site identifies roles and responsibilities for site staff and includes the following relevant procedures:

- Accident Investigation and Reporting
- Site Inspection, Audit and Reporting
- Managing Non-Conformance, Corrective & Preventive Action
- Control of Records
- Audits
- Disposal of Site Waste
- Surface Water Management
- Oil and Fuel Storage
- Emergency Preparedness and Response
- Emergency Preparedness & Response: Critical Incident Response for managing fire risk.

3.2.8 One of the principle objectives of the FMP is to ensure the efficient and safe operation of the site through the implementation of procedures that ensure define staff roles and responsibilities supported by provision of appropriate training. The FMP includes procedures that:

- control the source of ignition such as naked flames, space heaters to ensure adequate distance is maintained from stockpiles of combustible materials;

- ensure staff and contractors follow safe working practices when undertaking hot work;
- ensure staff, contractors and visitors are trained or inducted on correct safety and fire prevention procedures;
- defines a regular maintenance and inspection programme for all site areas including machinery and good housekeeping including maintaining levels of dust, fibre and litter to a minimum.

3.2.9 There is a no-smoking policy enforced on site. Site security includes CCTV, alarms and out of hours security personnel attendance. The security of the new building will be part of the sites overall security strategy. Access will be controlled by the main reception and no unauthorised persons will be able to access the facility. Vehicles entering the site will have to access via manned gates and pedestrian access into the building and are subject to a strict induction procedure. No additional fire protection measures are considered necessary to the measures currently practised onsite.

Fire Procedures – Equipment and Infrastructure

3.2.10 All site vehicles will be fitted with fire extinguishers. Portable fire extinguishers will be provided on site. A series of fire hose reels are located within the building envelope. The site's primary firefighting strategy in the event of a fire will be the utilisation of these hose reels. Operation of the facility, and associated fire protection and suppression systems, has been undertaken with consideration to the WPA code of practice for safe design and operation of timber treatment installations.

3.2.11 Fire detection equipment will be employed in key areas of the process plant and will be monitored constantly for signs of development of fire which may lead to combustion of materials. An indicative plan showing the proposed storage location for received and processed materials is provided in the FMP. Storage areas have been designed to ensure that access for fire brigade vehicles can be gained in the event of a fire at the site.

Fire Water Containment

3.2.12 The current building is bunded by the perimeter retaining works that prevent any waters used in the control of fire inside the building from escaping. The proposed building will be bunded by 300mm bund. Hoses are operated from fire hydrants on site. Should fire water volume exceed the capacity of the relevant building, fire water will be pumped and removed from site via tankers.

Water Supply

3.2.13 The operator has sole access to the water abstraction borehole at the site. If this were not accessible due to the progression of a fire, there are a number of mains connections they can make via hydrant located around the wider site.

Storage

3.2.14 Imported and processed wood awaiting treatment will be stored inside the current or proposed building on site dependent on where it is being treated. The wood is and will be stored in accordance with the fire prevention and control measures identified above.

Action Plan

3.2.15 The sites FMS details Emergency Preparedness & Response: Critical Incident Response for managing fire risk, it is this document that will be used to ensure appropriate response management. In summary, in the event of an outbreak of fire, all or some of the following actions will be undertaken as appropriate.

- Any outbreak of fire at the site shall be treated as an emergency. Where it is safe to do so, without endangering the safety of persons, immediate action shall be taken to extinguish the fire using the site fire extinguishers.
- If the fire cannot be controlled on site then the Fire & Rescue Service is to be contacted by telephone immediately.
- The site or operations manager is to be contacted immediately by telephone and informed of the situation.
- The area of fire must be evacuated without generating panic. All site personnel must make their way to the fire assembly points. Site personnel must ensure that no persons or vehicles re-enter the affected area.
- A check shall be conducted to ensure that all persons present on the site are safe and accounted for as required for Fire Emergencies. Using clock cards, staff and visitor signing in sheets.
- The site or operations manager is to contact the local authority or other relevant regulatory authorities immediately by telephone and in writing, as soon as reasonably practicable, after the outbreak of a fire to advise them of the incident and of the action taken.
- Upon the outbreak of fire the receipt of wood at the site is to be suspended and not resumed until authorised by the Site Manager.
- Communication with local businesses and residents identified in the sensitive receptor table above will be undertaken in the event of a fire to reduce any environmental damage and risks to human health associated with smoke and dust.
- Collected fire water to be retained within the site building via the internal walls and other appropriate bunds as necessary. Any retained firewater will be removed from site by tanker.
- Site operations will not be recommenced until deemed safe to do so by the Local Fire Authority and the local authority or other relevant regulatory authorities.

3.3 Loss of Containment

3.3.1 All areas of the impermeable concrete surface, covered buildings, roofed areas, fixed / temporary bays and containers are will be visually inspected at least weekly to ensure continuing integrity and fitness for purpose. The inspection and any necessary maintenance required will be recorded. In the event that any damage breaches the integrity of the engineered containment so that it no longer meets the required standards, necessary remedial work will be completed as soon as practicable. All areas to be included in the extended site boundary associated with the proposed timber treatment facility will be subject to the routine inspections and recording requirements.

3.3.2 The drainage system at the site is subject to weekly visual inspections to ensure effective operation and integrity of the system. This will include the drainage system associated with the proposed timber treatment facility and storage areas. Maintenance will be undertaken to ensure the effective operation and defects will be rectified as soon as possible.

3.4 Accident Management Plan

3.4.1 The operator will maintain the Accident Management Plan (AMP) which is subject to review by the regulator (BAT 109). The AMP will be applied to the proposed timber treatment facility. The AMP includes procedures for investigating incidents and near misses, and identifying the suitable corrective and follow up actions (BAT 108). Similar procedures are in place currently to address abnormal fugitive emissions such as smoke or odour which may result from an accident, along with reporting lines internally and externally, and timeframes for making reports or notifications (BAT 110). The relevant permit conditions for reporting

requirements for the current timber treatment activity will apply to the proposed timber treatment activity. BAT 112 to 114 are not applicable to this site.

3.4.2 An overview of the likely components of the AMP is detailed in the accompanying Habitats and Environmental Assessment report (referenced 3057/R/002/01) provided at Appendix D of this report.

4 TECHNIQUES TO CONSIDER IN THE APPLICATION OF BAT

4.1 Choice of Raw Materials

4.1.1 The draft SG11 currently requires the operator to demonstrate that they have taken measures to:

- Reduce the use of chemicals and raw materials
- Substitute with materials presenting lower risks to the environment; and,
- Understand the fate of by-products and contaminants and their environmental impact.

4.1.2 Selection of the following types of raw materials should be considered:

- Type of preservative (water-based, solvent-based, creosote etc.)
- Sustainable use of water
- Fuel Oils
- Solvent usage

4.1.3 SG11 does not consider the wood to be treated as a raw material in the context of BAT. As no solvents are used in the wood preservation process, addressing the BAT requirements of solvents is not considered further (pending future annual reviews – see below).

Treatment Chemicals

4.1.4 The treatment agent is mixed to a 4% solution prior to use in the treatment vessel in the current timber treatment facility. The treatment agent to be used in the proposed timber treatment facility will be diluted in the mixing tank to the required concentration prior to use in the working tank. The operator uses 8 main types of preservative / pigment in the wood preservation process in the current and proposed timber treatment facilities (Material Safety Data Sheets (MSDS) are in Appendix E of this report). All key chemical treatment agents currently used and proposed to be used on site are summarised in Table 1.

Table 1. Key Chemical Treatment Agents

Chemical Name	Key Component	Property
Wolmanit ProAdd DF	Polydimethylsiloxane	Improves rheological (flow) properties
Wolmanit CX-10	Copper Carbonates / Boric Acids	Biocide
Wolmanit ProColor brown 2005	Azoic dye	Colour concentrate
Wolmanit ProColor brown 2007	Alcohol ethoxylate, azoic dye	Colour concentrate
Wolsit SP	5-Chloro-2-methyl-4-isothiazolin-3-one, 2-Methyl-2H-isothiazol-3-one	Chemical Additive
Wolmanit CX-8F	Copper, Copper Carbonate, Hydroxide, complexing agent based on ethanolamine and carboxylic acids, Bis-(N-cyclohexyldiazeniumdioxy)-copper	Wood preservative
Wolmanit C&T	Propiconazole	Wood preservative
Wolmanit ProAdd T1669	Fatty Alcohol Ethoxylate	Additive wood preservatives

4.1.5 BAT 84 requires the adoption of procedures to control the specification of those types of raw materials which have the main potential to cause an adverse environmental impact i.e. the

preservatives and pigments used. An annual review of alternative raw materials should be carried out with regard to environmental impact. The operator maintains contact with the supplier of the chemicals (BASF) to keep them aware and to allow recommendations for the use or otherwise of key components in the treatment process. Where not carried out already, treatment agents are reviewed on an annual basis.

4.1.6 None of the chemical MSDS are assigned with the hazard statement designations of H340, H350, H350i, H360D or H360F and therefore do not require immediate replacement in accordance with BAT 85. The operator monitors the amount of component chemicals required to produce the preservative compound. This is monitored automatically by the dosing system and electronic records maintained of the volume of preservative used.

Water

4.1.7 Water used in the process at both current and proposed timber treatment facilities is abstracted from a borehole located directly underneath the installation to the east of the current timber treatment facility. This is categorised as a Secondary B Aquifer (see accompanying Phase I and Phase II Site Investigation reports attached at Appendix C of this report) and is not considered to yield significant amounts of water. This indicates that its use by the current wood treatment activity is unlikely to adversely affect other users or put the resource at risk. The proposed timber treatment facility is considered unlikely to have any additional impact. For example, the nearby groundwater pumping station evidently draws water from the shallow aquifer and the two are therefore not in conflict.

4.1.8 The operator draws < 20 m^3/day into an above ground storage tank which is automatically topped up by a float switch to ensure enough water is available to sustain the process. The proximity of the borehole means the minimum amount of energy and resources are required to abstract and pipe the water to its required location. The operator may consider introducing water collected from the roofs in this tank, however there is currently insufficient space available to install a secondary tank.

4.1.9 Water is used in the production of the treatment agent and washing down of surfaces only. Using water-based chemicals is considered to present the lowest risk in terms of emissions and additional abatement controls required for the environment and protection of human health. The treatment agent provides the required level of protection for the wood at the lowest effective concentration. A reduction of the proportion of water used therefore unnecessarily increases the amount of chemicals required and hence costs and risk to the environment.

4.1.10 Wash-down water is used sparingly as all the run-off will flow / be pumped into the mixing tanks beneath the treatment vessels at both the current and proposed timber treatment facilities. This is then re-used in the treatment process. No water is discharged off site as waste effluent. Excessive volumes of wash-down water may dilute the chemicals and make the treatment process less effective. It is important to identify the minimum amount of water required to effectively clean the area and closely monitor the quality of the treatment solution.

4.1.11 Auditing of the water use is carried out in accordance with BAT 91. It is unlikely water consumption can be reduced in the process without compromising the operational effectiveness of the treatment agent. Abstraction of water from the deep aquifer is considered to have the least impact on groundwater resources due to its low yield potential and overall volume used. The findings of the water use survey may be used to inform whether other sources of water could be used e.g. roof rainwater. It is proposed to install a rainwater harvesting tank to the north west of the proposed timber treatment facility building in accordance with BAT 92. The operator has installed a water meter at the groundwater

abstraction well and monitors the volume of water removed, retaining records as appropriate. The water audit is routinely carried out and the data gathered during normal and abnormal operating conditions is used to track improvements as per BAT 93 and BAT 94.

Fuel Oils

4.1.12 The current and proposed activities draw power from renewable sources on site or the mains connection. Fuel oils are not used in the activities. The forklifts are powered by diesel which is not stored within the buildings.

Solvent Usage

4.1.13 No VOC or other solvents are used in the process with the exception of negligible amounts used for essential maintenance or cleaning.

4.2 Delivery, Storage and Handling of Raw Materials

4.2.1 SG11 requires operators to consider the potential impact of the delivery, storage and handling of raw materials related to their activity. The accompanying Habitats and Environmental Assessment provided at Appendix D of this application considers the source-pathway-receptor linkages of all the above in detail. This report assess whether the appropriate measures are in place to minimise the impacts from the current and proposed timber treatment activities in accordance with BAT as indicated and where applicable.

Treatment Chemicals

4.2.2 The chemicals used in the treatment process in the current timber treatment activity are delivered to the on-site tanks by direct transfer from a road tanker (BAT 4). The chemicals to be used in the treatment process in the proposed timber treatment activity will be delivered to site in the same way. Odours from the delivery of chemicals should be negligible due to the low odour potential of the chemicals. Air displaced by the transfer of liquids to the tanks is currently expelled externally. It is proposed to install a system where any odorous or potentially harmful headspace air (should such chemical be used on site in the future) is piped back to the headspace of the delivery tanker. Options will be considered by the Operator.

4.2.3 The storage area for the proposed timber treatment activity is to be located in the building on a sealed concrete floor. The covered yard outdoor storage area is also on an impermeable surface. The catch pits will collect all liquid which is then pumped back to the mixing tanks. If a spillage or loss of containment were to occur, all liquid would flow into the catch pits and/or tanks dependent on the treatment building (BAT 3). All delivery connections to the proposed timber treatment facility is to be within the catchment of the contained area (BAT 7).

4.2.4 To minimise the risk of spillages and subsequent contamination of surface water systems, all potentially polluting materials are stored in appropriate closed containers (BAT 10) in designated areas inside a building (BAT 2). The chemical tanks are clearly labelled with their content, associated hazards and necessary precautions for their correct handling. Any chemicals to be used in the proposed timber treatment activity will be stored in clearly labelled tanks consistent with the current chemical on site. In addition to the automated system, regular estimates of their available capacity will be made. This is undertaken on at least a weekly basis and the results recorded. These systems warn of overfilling during liquid deliveries.

4.2.5 The loading and unloading of containers is carried out in accordance with the manufacturer's procedures to avoid spillages and overseen by trained on-site personnel to prevent spillages (BAT 9). In the event of a spillage, the site specific procedures will be implemented. In general, small spillages will be dealt with by appropriately trained site personnel using sand,

absorbent spillage media or specialist spillage kits, which will be located at defined points around the site. As a precautionary measure, drains and gullies will be isolated with proprietary rubber drain sealers, sand bags, booms or other similar devices kept on site. In the case of larger spillages, especially where there is a potential fire risk, the fire service or a specialist contractor will be employed to ensure the area is thoroughly cleaned.

4.2.6 In the event of a spillage on site, it will be the responsibility of the site personnel to minimise its effect by ensuring the area of contamination is kept to a minimum and stopping up gullies and drains to prevent contamination of the drainage system.

4.2.7 In the unlikely event of a leak or spillage from on-site plant, storage tanks or wastes received, the following procedure will be undertaken:

- The cause of the spillage will be identified and recorded so that further leaks or spillages may be prevented.
- Remedial actions may include one or more of following:
  - Bunding and containment of the spilled material with sand or absorbent granules/pads
  - The application of absorbent granules
  - Suction to remove spilled material to secure container
  - Sweeping to allow collection of the materials and their placement in a secure container.
- Absorbent granules will be kept on site at all times for the purpose of dealing with liquid spills. Contaminated granules will be loaded into an appropriate container for removal to an appropriate licensed waste management facility as soon as practicable following containment of the spill.
- Details of the spilled material and estimated quantity involved and remedial actions taken will be recorded.

4.3 Waste Management

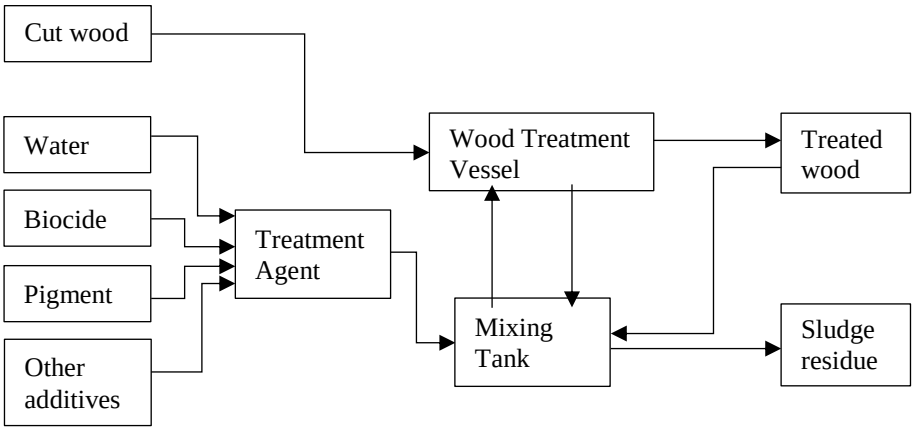
4.3.1 SG11 requires operators to instigate effective waste management practices throughout the day-to-day operation of their activities. This should include as a minimum:

- ongoing identification and implementation of waste prevention opportunities;
- the active participation and commitment of staff at all levels; and,
- monitoring of materials' usage and reporting against key performance measures or benchmarks

Waste Minimisation

4.3.2 Figure 1 is a process flow diagram showing where raw materials are used or reused and where waste may be generated. This applies to the current and proposed timber treatment activity. This is used an illustrative point of reference by the operator to quantify resources used and disposed of (BAT 87) in order to optimise efficiency and cost savings against a defined benchmark e.g. raw material used per tonne of product produced. The only waste generated by the process is the small amount of sludge residue that builds up in the base of the mixing tanks as a result of entrainment of dust or other fines from the wood or building. There is no feasible use for this material and it is sent for recovery / disposal at an off-site facility.

Figure 1. Raw Material Usage and Waste Generation



4.3.3 This process of resource efficiency will be reviewed on at least an annual basis (BAT 88) and if not carried out previously within 18 months of A2 permit issue (BAT 89). This follows the general principles of Section 3.3 of Government Guidance document 'Changing Patterns - UK Government Framework for Sustainable Consumption and Production.' The operator will instigate any improvements identified within a timescale agreed with the regulator (BAT 90).

Waste Handling

4.3.4 The proposed timber treatment activity will provide additional waste but the waste will be consistent with the waste currently generated and handled on site. The only waste generated from the process is very limited quantities of sludge which builds up outside the metal liner of the mixing tanks. This is expected to be a mixture of treatment agent dripping from the drying wood and dust or other detritus washed from the inner surface of the building. No chemical containers are disposed of from the process, although small amounts of office waste are generated: paper, disposable gloves etc.

4.3.5 The nature of the small number of waste steams generated by the process or associated activities mean they are unlikely to require intervention for segregation (BAT 96). Dry office waste is incorporated into the wider waste recycling scheme of the site. Disposable PPE or cleaning products are unlikely to be directly recyclable and exported from site in the general waste. Sludge is removed from the mixing tanks in the current timber treatment building by direct transfer to a gullysucker on an annual basis. This will be undertaken for the proposed timber treatment facility. The sludge is exported from site in accordance with the waste Duty of Care obligation (with appropriate classification) prior to its onward recovery or disposal.

4.3.6 The Duty of Care requires the operator to keep records of the amount of sludge removed from the mixing tanks. This information will be used to assess the amount of this waste produced, over what time frames and how it can be reduced by for example better housekeeping (dust, dirt build up) or raw material management (BAT 95). The operator will ensure that the containers used for storage of waste and the areas these containers are located are be fit for purpose. This will include clear labelling of the types of waste stored to ensure effective segregation and incompatible wastes are kept separate (BAT 97). The containers themselves will be sufficiently robust and suitable for the waste intended. If loss of containment or accidental spillage were to occur, procedures are in place to contain the waste (BAT 98). The disposal route will be chosen on the basis of cost and proximity, however the rural location of the site means choices will be limited (BAT 99). BAT 100 (solvent waste) does not apply to this activity.

Waste Reuse, Recovery, Recycling or Disposal

4.3.7 Waste is removed from site by 3rd Party contractors. A review of the best environmental management options for the waste streams generated will be carried out annually. A review of waste streams currently taken to landfill will be carried out every 2 years to explore viable alternatives (BAT 102). Records will be maintained to monitor the following characteristics of waste produced at site in addition to the Duty of Care where applicable (BAT 134):

- quantity nature and origin of the waste;
- the physical description of the waste;
- a description of the composition of the waste;
- any relevant hazardous properties (hazard and risk phrases);
- European Waste Catalogue code;
- handling precautions and substances with which it cannot be mixed; and
- disposal routes for each waste category.

4.4 Water Use / Waste Water Management

Water Emissions / Discharge Consents

4.4.1 There are no direct emissions to water that require a discharge consent from the Local Authority or Environment Agency. The water abstraction borehole used at site draws groundwater from the underlying bedrock of interlaminated siltstone and sandstone which comprise the Baily Beds. The volume of water removed is <20 m^3/day and therefore does not require a groundwater abstraction licence. BAT 53 to 57 do not apply at present.

Point Source Emissions to Groundwater

4.4.2 There are not intentional point source emissions of hazardous or non-hazardous substances under the Water Framework Directive (formerly defined as List 1 and 2 substances) to groundwater. BAT 58 does not apply to this activity.

4.5 Energy Efficiency

Basic Energy Efficiency Requirements

4.5.1 The operator will produce a report annually on energy consumption at the current and proposed activity (BAT 103). Consideration may be given to the installation of meters to measure consumption at that part of the wider site. This will enable targeted reductions in usage or improvements in energy efficiency (BAT 104). In order to support this drive, all plant and equipment will be operated and maintained accordingly to maximise energy efficiency (BAT 105).

4.5.2 The operator installed solar panels on the roof of the main saw mill building which provides an additional source of energy for the site. The operator has biomass plant which uses the heat from wood chip to reduce the moisture content and hence combustibility of wood chip destined for biomass export elsewhere. The proposed timber treatment activity will in addition have a biomass boiler attached to the west of the building to provide a source of heat for the drying process.

Additional Energy Efficiency Requirements (BAT 106)

4.5.3 The operator is considering installation of a ground source heating system to reduce energy usage in the heating of the treatment agent. They will also consider improvements in insulation and incorporating targeting of energy drops into the preventative maintenance programme. Control of motors and fans is already optimised by the fully automated management system, as are pumping distances under the current set-up.

5 SITE CONDITION

Pre-operational Baseline Study

5.1.1 The operator has provided a site report attached at Appendix C of this application to address Question B2.11a and B2.11b of the Shropshire Council form for an application for a variation of permit conditions. The Phase 1 and Phase 2 Site Appraisal was produced to support the planning application for the proposed timber treatment facility with associated yard and hardstanding to provide information on conditions at the site. It determined there was a long history of industrial use at the site and a number potential sources of contamination. The primary receptor for pollution was determined to be the groundwater and soil directly underneath the installation boundary.

Measures to be undertaken on Cessation of Activity

5.1.2 The wood treatment activities are fundamental to the economic viability of the wider Ranford's site and are unlikely to cease independently. If the one of the timber treatment activities were to cease, the operator would prepare a detailed decommissioning plan which would be made available for discussion with the local authority at their request. The decommissioning plan will apply both to the current and proposed timber treatment activities on site. The progression of site decommissioning is likely to be as follows:

- Removal of all liquids from their respective storage tanks or sumps. These liquids will be exported from site via road tanker. If the liquids cannot be re-used in a similar process, they will be treated as waste and subject to the appropriate regulatory controls e.g. duty of care until disposal / recovery at a suitably permitted facility.
- Where possible, the tanks and associated pipework will be removed for off-site decontamination, re-use, recovery or disposal. It would not be preferable to decontaminate the tanks on site, however appropriate precautions will be made to prevent escape of contaminating liquids or residues during removal. This may require construction of temporary bunds and / or heightened spillage contingency measures. Appropriate measures will be taken to protect the integrity of the water abstraction borehole from damage or contamination.
- All residue will be removed from the underlying mixing tanks using a gullysucker or similar equipment. Any residue will be exported from site as a waste and subject to appropriate regulatory controls. Complete removal of all residue from the tanks will be independently verified.
- The tanks will be inspected for damage. If their integrity has been compromised during their prior use or during the decommissioning works, the operator may instigate further investigations to determine the extent of any contamination and the requirement for remedial measures.
- Subject to the next use of the site, it may be appropriate to break-out the concrete tanks in anticipation of future construction works. It may be more practicable however to fill them in with concrete or similar material. Any material removed from the site will be treated as waste and subject to appropriate regulatory controls.

6 MANAGEMENT SYSTEMS AND REPORTING

6.1 Environmental Management Systems

6.1.1 Ranford's is committed to managing its activities in an environmentally responsible manner and is in the process of developing an Environmental Management System (EMS) to recognised industry standards. This will form the basis of the management and operational

procedures including plant / vehicular maintenance or emergency drills to be used at the entire site and to the new activity and will address BAT requirements BAT 75 to BAT 83. Table 2 summarises the likely component parts of the EMS for the wood treatment activity. The proposed timber treatment facility will be operated in accordance with the EMS for the site.

6.2 Additional Information

6.2.1 The regulator may reasonably request to view records associated with the EMS either directly or via sent copies as required. This is likely to be the same sort of information required by the auditor of an EMS.

Table 2. Environmental Management System

Section	Proposed EMS Manual Elements	Description of Content
1	**Scope**	This defines the company's commitment to carry out activities in an environmentally responsible manner as detailed within the operating documents.
2	**Normative reference**	Specifies which references should be accepted
3	**Terms and definitions**	Defines key points of reference in relation to chosen EMS standard
4	**OH&S Management System Requirements**	
4.1	General Requirements	This defines how the company will manage their customers' and other stakeholder expectations in terms of delivery of services / products by implementation of the collective policies and procedures associated with the EMS
4.2	OH&S Policy	This cross-references the company's environmental policy
4.3	**Planning**	
4.3.1	Hazard Identification, Risk Assessment and Determining Control	Details how the company routinely and proactively identifies the environmental aspects its activities may potentially impact and how the potential impacts are identified, quantified and controlled or eliminated.
4.3.2	Legal & Other requirements	Definitions of the regulatory requirements associated with the site. A comprehensive register of all environmental legislation relevant to the site will be maintained by the operator to ensure the operators continued awareness and compliance with legal requirements.
4.3.3	Objectives and Programmes	This considers the responsibilities for the management of the company's environmental performance targets or objective, the programme implemented in order to achieve them, the timescales required and individual / department responsibilities.
4.4	**Implementation & Operations**	
4.4.1	Resources, Roles, Responsibility, Accountability and Authority	This describes how the company has defined, documented and communicated the roles, responsibilities and authorities of personnel in order to ensure the site activities and the EMS is implemented and maintained in accordance with the chosen standard

Table 2. Environmental Management System

Section	Proposed EMS Manual Elements	Description of Content
4.4.2	Competence, Training & Awareness	This explains the communication strategy to ensure competency for all roles necessary for the effective running of the facility and how training requirements are identified, implemented and maintained. This will also ensure the employees at the facility are aware of the importance of the EMS and the potential consequences of not following the procedures and policies.
4.4.3	Communication, Participation & Consultation	
4.4.4	Documentation	Standard operating procedures are referenced in this section which describe how the company and facility define the scope of the EMS, how the various aspects interact and how / what procedures are in place to effect the requirements of the EMS. Document control is defined further in earlier sections.
4.4.5	Control of Documents	
4.4.6	Operational Control	This site-specific section addresses how the facility will be operated in an environmentally responsible manner and in compliance with the environmental permit and other regulatory requirements. This will include controls on waste acceptance, waste treatment and export. It will also address how nuisance emissions of dust, odours, noise, vibration, mud and debris will be prevented and controlled. Plant maintenance and management is considered as is handling of potentially polluting substances such as fuels.
4.4.7	Emergency Preparedness & Response	
4.5	**Checking**	
4.5.1	Performance Monitoring and Measurement	This section considers the management of EMS and will contain procedures that ensure compliance with permit conditions e.g. environmental monitoring and reporting. It also includes internal procedures for optimising the energy / resource efficiency of the facility.
4.5.2	Evaluation of Compliance	
4.5.3	Incident Investigation, Nonconformity, Corrective Action and Preventive Action	Reference is made in this section to accident risk assessments, emergency action plans for incidents such as fire and spillages and appropriate emergency numbers / contact details. This section also addresses non-compliance with the permit or other regulatory requirements and handling / recording complaints actual events and near misses.
4.5.4	Internal Audit	The company will maintain an audit programme to ensure that the EMS continues to be effective by meeting policies and objectives and to identify opportunities for improvement at the site. This section sets targets and objectives, and identifies how and when management reviews / site audits shall take place.
4.6	Management Review	

6.3 Reports or Notifications

6.3.1 The current relevant reporting provisions for the site required by BAT are listed in Table 3. These will be applicable to the proposed timber treatment facility.

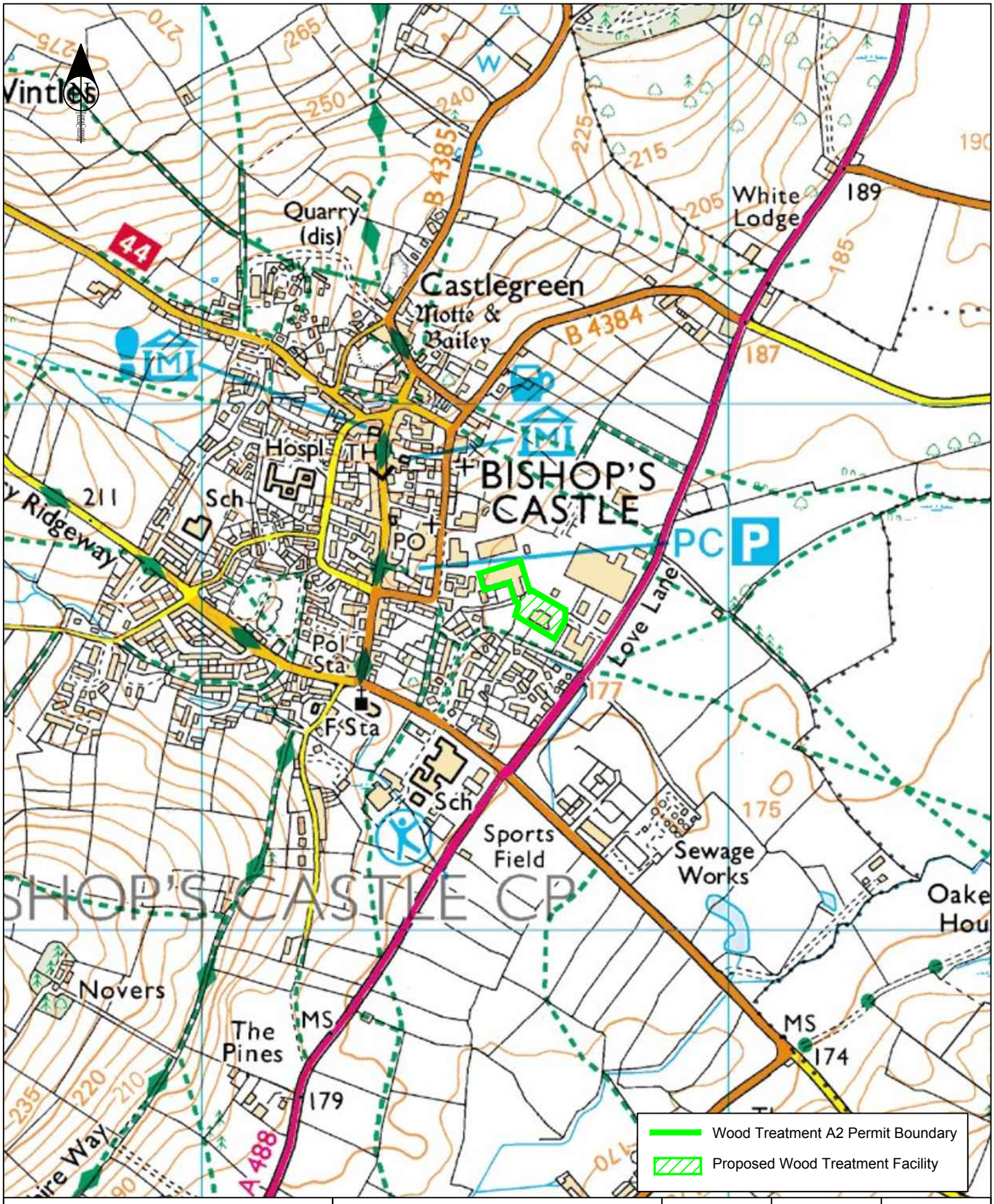
Table 3. Recording and Reporting Requirements Under BAT

BAT Reference	Provision	Information Category	Frequency
30	The drainage systems related to the treatment operations on site should be recorded on a clear diagrammatic record and should be inspected on an annual basis.	Internal Inspection	Annually
33	Operators should develop a reporting system which records the movement of a pack onto and off of the post treatment drying areas	Internal Reporting	As required
78	Records of breakdowns should be kept and analysed by the operator in order to eliminate common failure modes.	Internal recording / reporting	As required
79	Notification of appointed competent person to liaise with the regulator and the public with regard to complaints	Notification	Reactive
81	Details of training and instruction should be entered into an appropriate record and be made available for inspection by the regulator.	Internal recording / reporting	As required
87	The operator should record materials usage and waste generation in order to establish internal benchmarks.	Internal recording	As required
88	The operator should carry out a waste minimisation audit at least as frequently as the permit review period.	Internal recording / reporting	TBC
89	Audit for optimising the use of raw materials should be submitted to the regulator.	External reporting	With 18 months of permit issue**
91	The operator should carry out a regular review of water use (water efficiency audit).	External reporting	Within 2 years of permit issue**
95 / 134	The operator should produce an inventory of the quantity, nature, origin and where relevant, the destination, frequency of collection, mode of transport and treatment method of any waste which is disposed of or recovered.	Internal recording / reporting	As required
101	The operator should carry out an annual review to demonstrate that the best environmental options are being used for dealing with the waste streams listed in Table 5.2.	Internal recording / reporting	Annually
102	The operator should investigate potential markets for the recovery/re-use of wastes that are currently disposed of to landfill.	Internal recording / reporting	Every 2 years
103	The operator should produce a report on the energy consumption of the installation.	Internal recording / reporting	Annually
109	The operator should maintain an accident management plan covering the matters listed above and to the satisfaction of the regulator. The plan should be available for inspection by the regulator.	Internal recording / reporting	As required
110	Investigation of abnormal emissions arising from an accident. Remedial action taken immediately. Prompt recording of the events and actions taken. Notification of the regulator without delay*	Notification	Reactive

Notes

*Without delay. In most cases it should be enough to notify the local authority (by telephone or facsimile or email) within an hour of the start or detection of the emission. Local authorities will wish to consider what notification arrangements to require outside working hours.

** Unless carried out in the 2 year period prior to permit issue.



TerraConsult

Bold Business Centre, Bold Lane, Sutton, St Helens WA9 4TX

Client

Charles Ransford & Sons Ltd

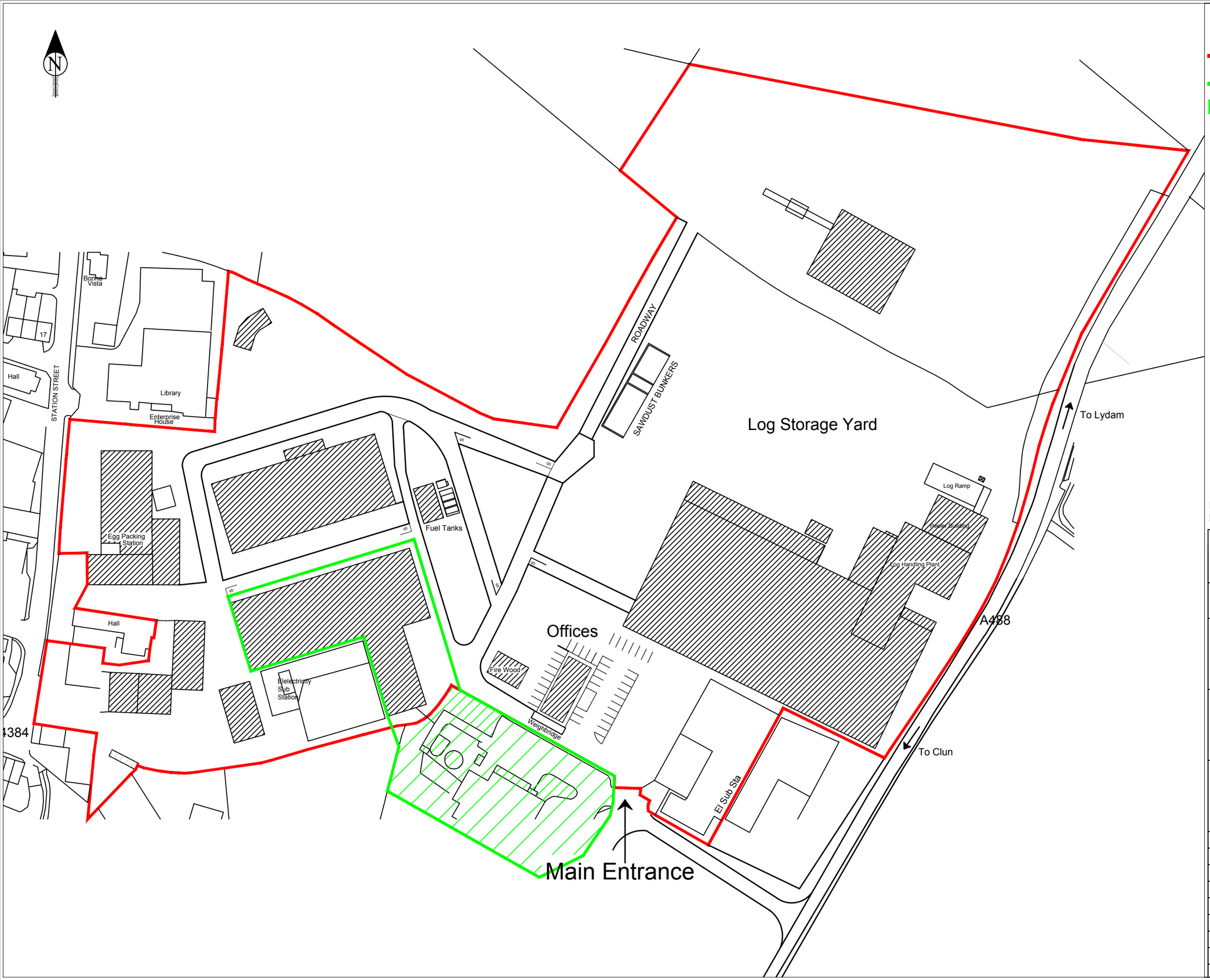
Site

Ransford Sawmill, Bishops Castle

Title

Site Location

Scale	1:10,000	@ A4
Drawing No.	3057/1/001	
Rev	Date	Description
File	30571001SiteLocation	
Date	04/17	Engineer CF
Drawn	JC	Checked FINAL



Note:
Drawing referenced from McCartneys drawing No. LSV/431

TerraConsult

Bold Business Centre, Bold Lane, Sutton, St Helens WA9 4TX

Client

Charles Ransford & Sons Ltd

Site

Ransford Sawmill, Bishops Castle

Title

Part A2 Permit Boundary

Scale	1:1,500	@ A3
Drawing No.	3057/1/002	

Rev	Date	Description

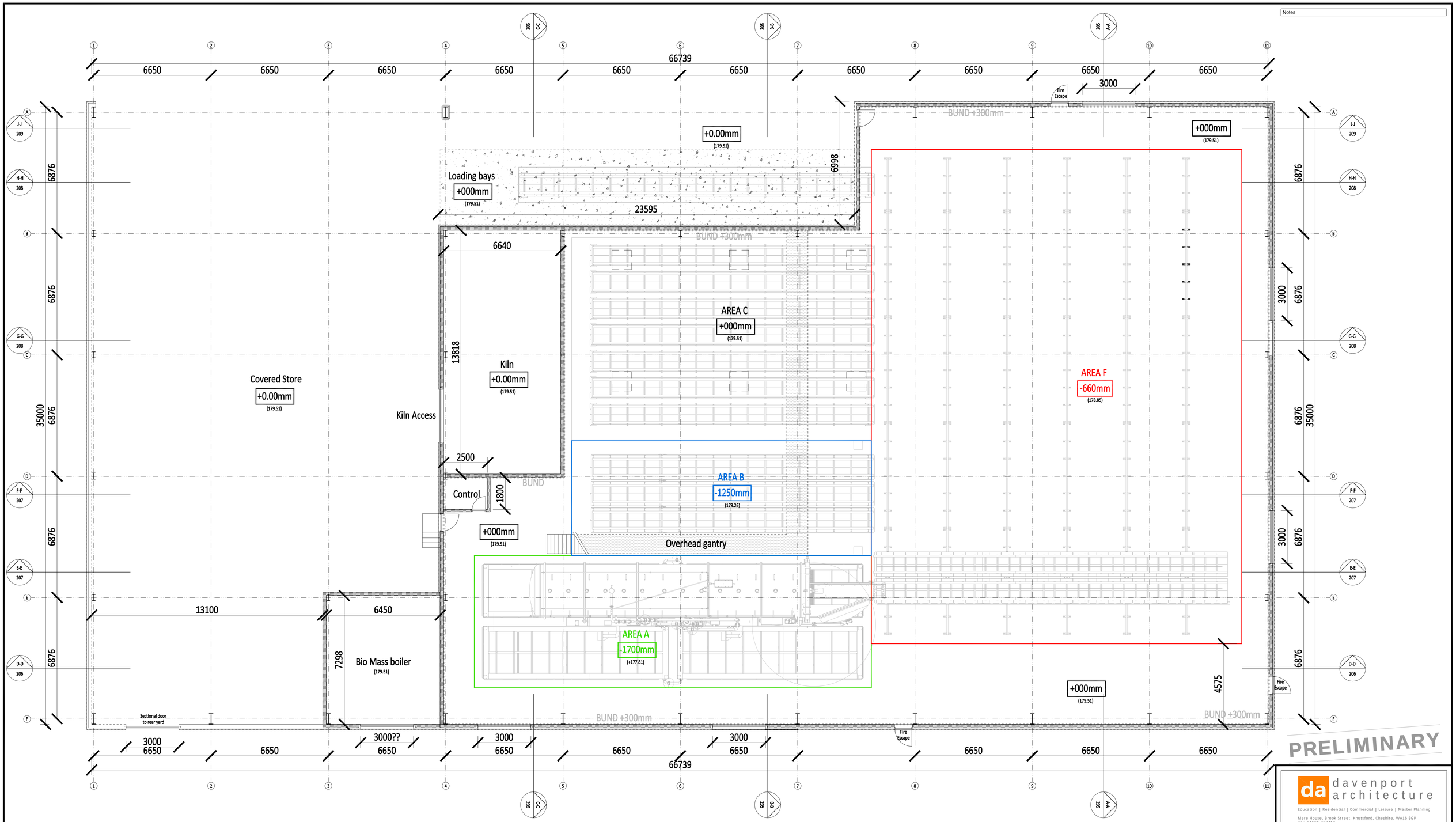
File	30571002SitePlan		
Date	04/17	Engineer	CF
Drawn	JC	Checked	FINAL

APPENDICES

APPENDIX A

Site Plans for proposed timber treatment building

Notes



PRELIMINARY

davenport architecture
Education | Residential | Commercial | Leisure | Master Planning
Mere House, Brook Street, Knutsford, Cheshire, WA16 8GP
Tel: 01565 360419

Project Title

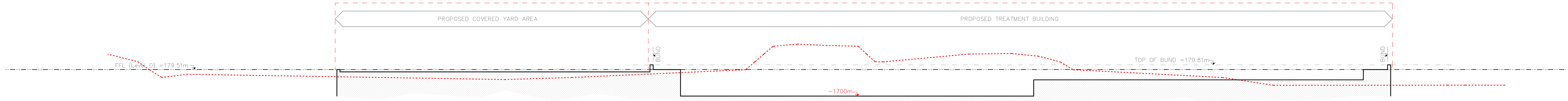
Charles Ransford & Sons
Proposed treatment building

Drawing Title

Proposed floor plan
-

Scale		Author
1:100	A1	JD
Job Number		Checked
2016-03101		-
Drawing Number		Revision
201		

Notes



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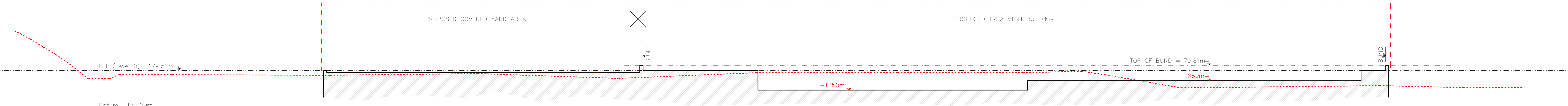
Proposed															

SECTION A-A



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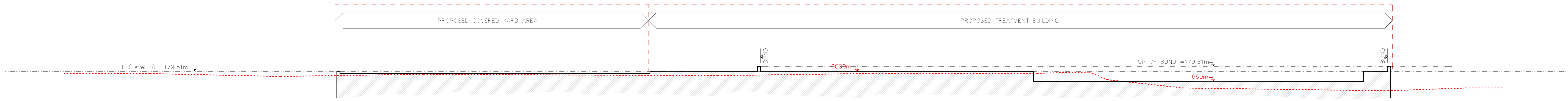
Proposed											

SECTION B-B



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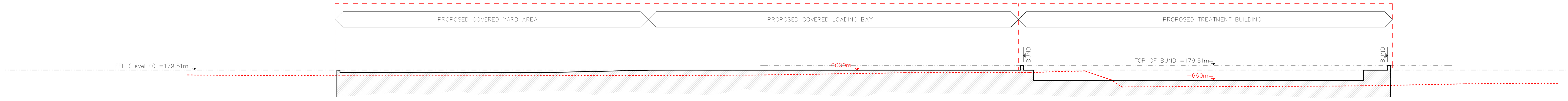
Proposed											

SECTION C-C



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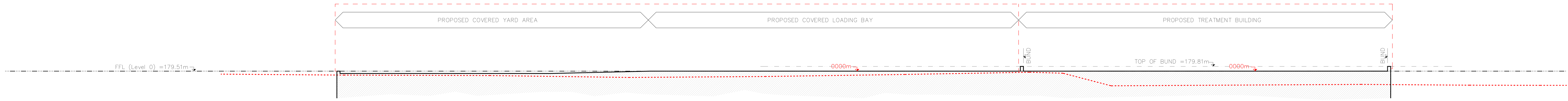
Proposed											

SECTION D-D



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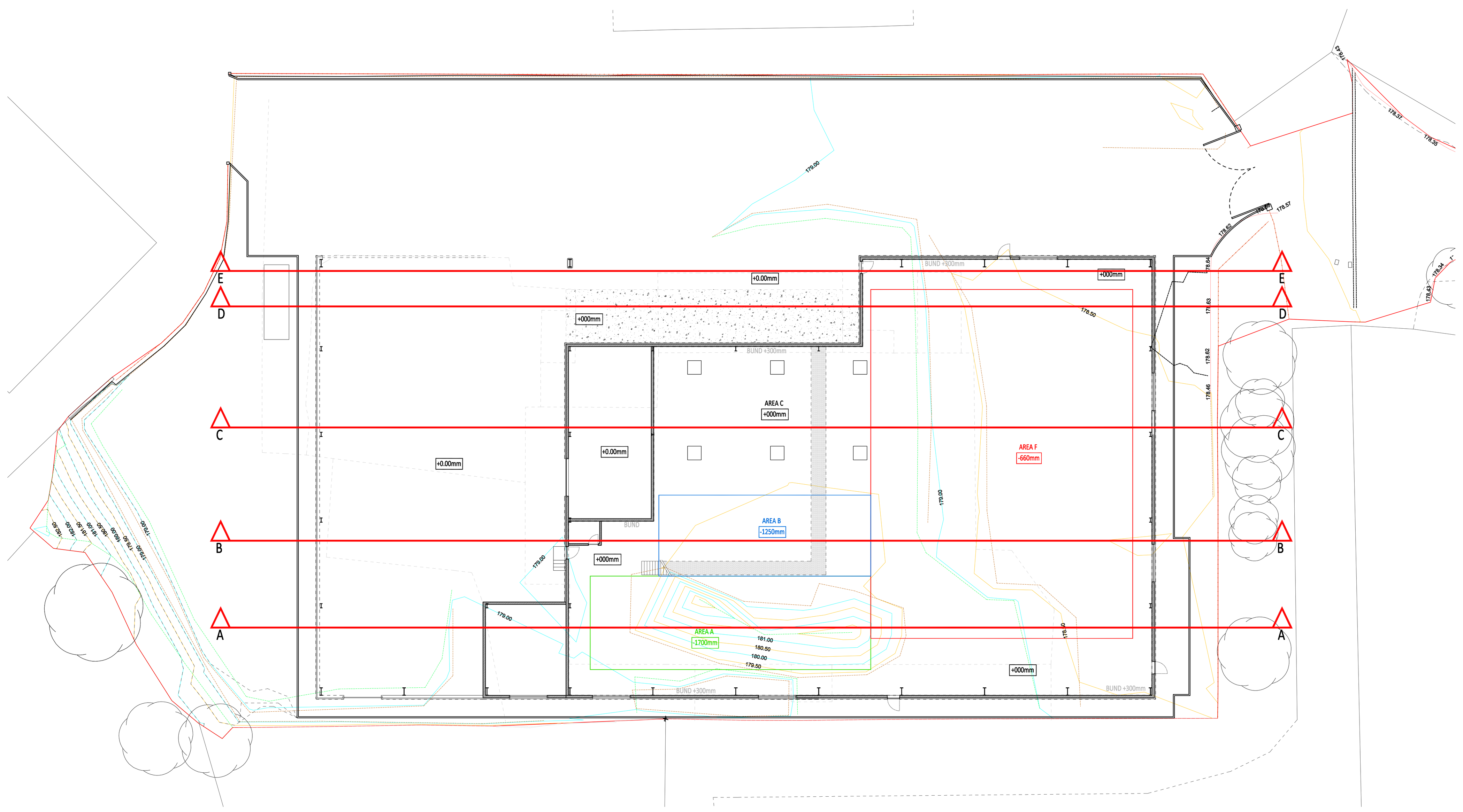
Proposed											

SECTION E-E



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PRELIMINARY

da davenport architecture
Education | Residential | Commercial | Leisure | Master Planning
Mere House, Brook Street, Knutsford, Cheshire, WA16 8GP
Tel: 01565 360419

Project Title

Charles Ransford and Sons
Proposed Timber Treatment Building

Drawing Title

Site Sections
-

Scale		Author
1:100	A0	JD
Job Number		Checked
2016-03101		-
Drawing Number		Revision
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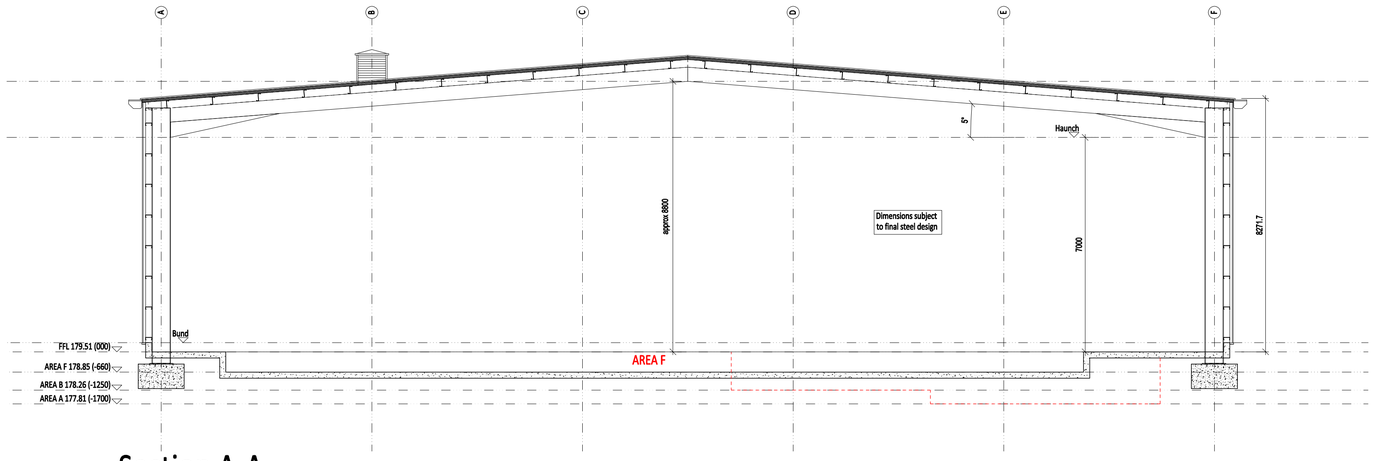

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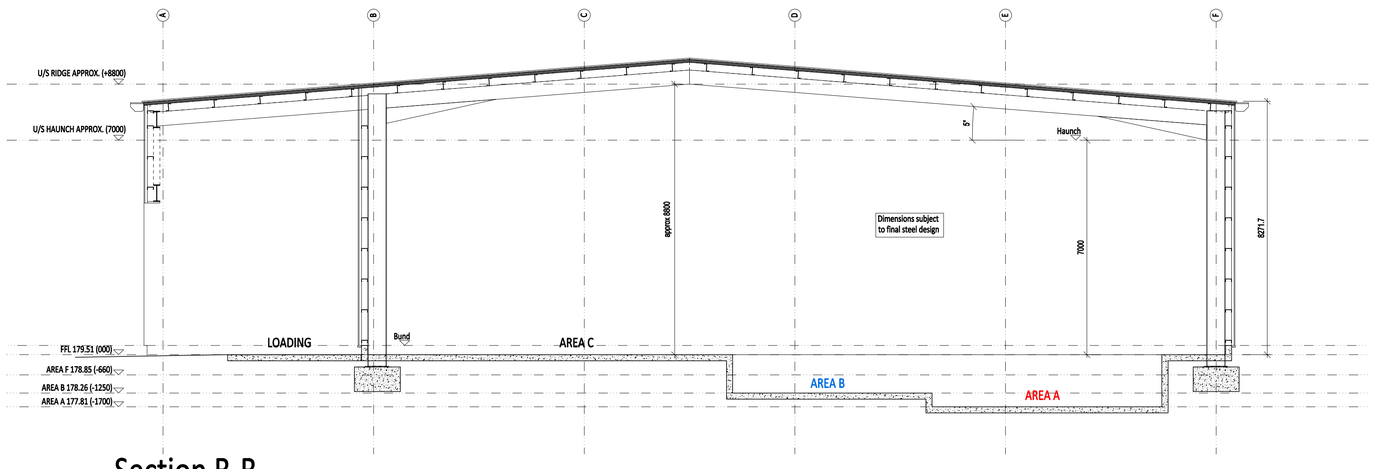

Section B-B

PRELIMINARY

davenport architecture
Education | Residential | Commercial | Leisure | Master Planning
Mere House, Brook Street, Knutsford, Cheshire, WA16 8GP
Tel: 01565 360419

Project Title

Charles Ransford & Sons
Proposed treatment building

Drawing Title

Proposed GA Sections
A-A & B-B

Scale		Author
1:100	A1	JD
Job Number		Checked
2016-03101		-
Drawing Number		Revision
205		

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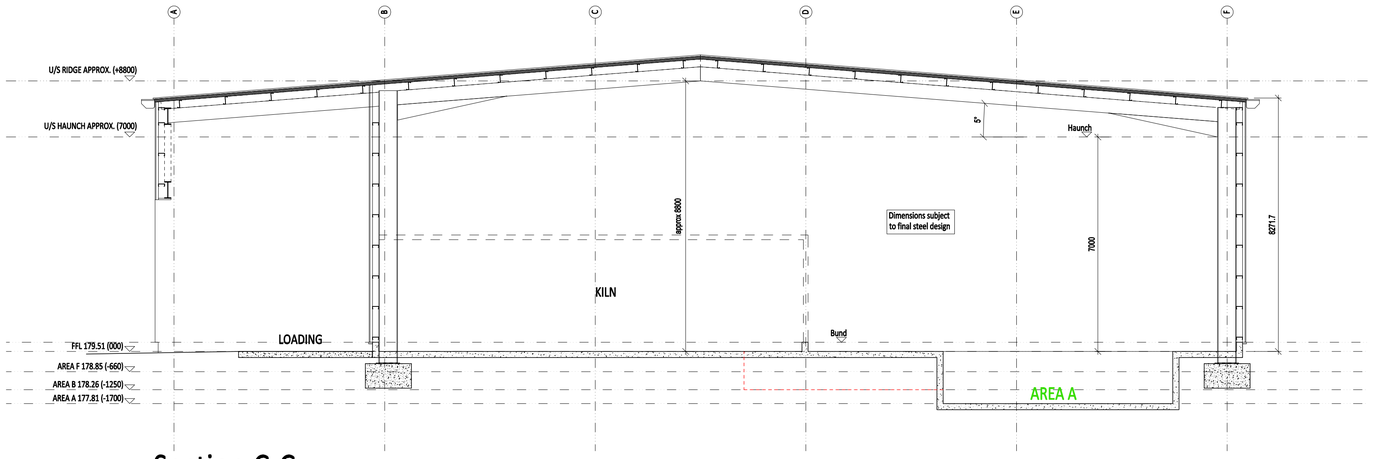

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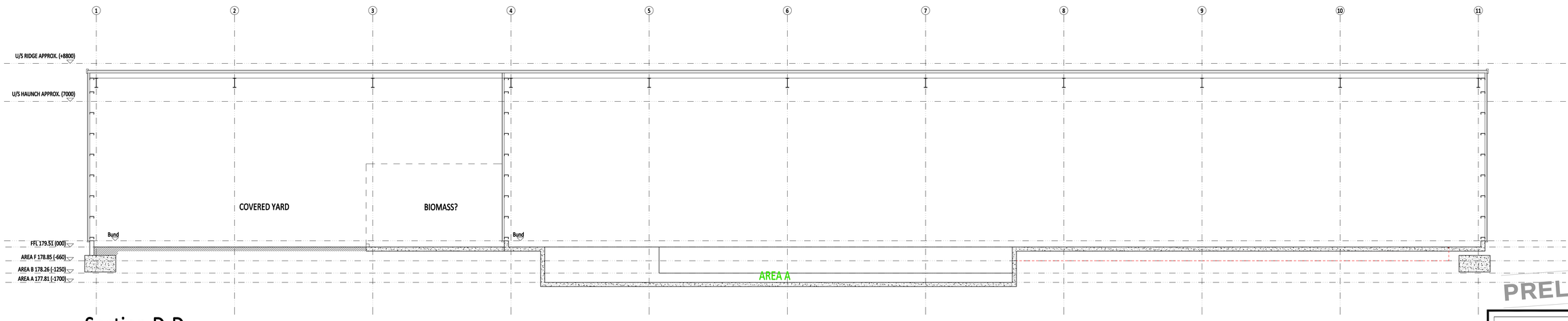

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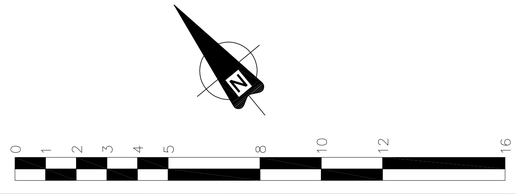

davenport architecture
Education | Residential | Commercial | Leisure | Master Planning
Mere House, Brook Street, Knutsford, Cheshire, WA16 8GP
Tel: 01565 360419

Project Title

Charles Ransford & Sons
Proposed treatment building

Drawing Title

Proposed GA Sections
C-C & D-D

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Job Number		Checked
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Drawing Number		Revision
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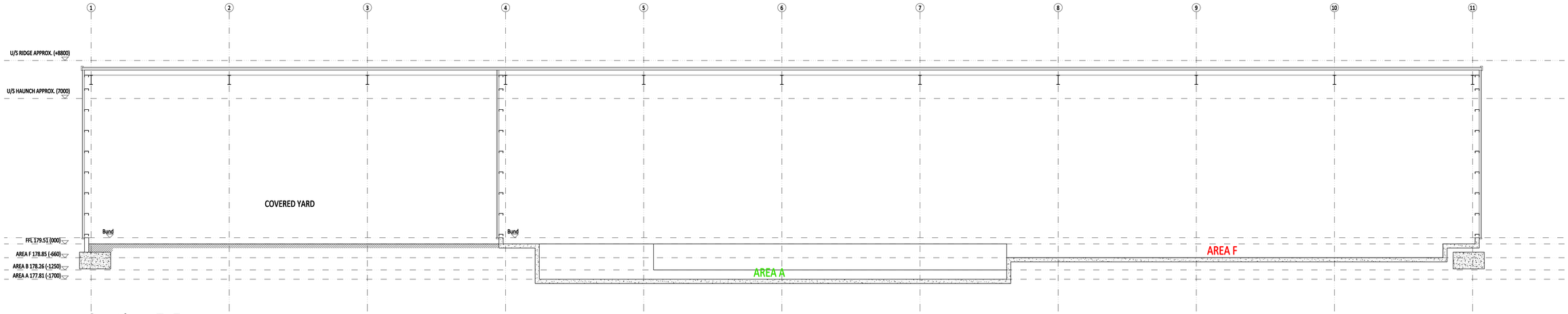

Section E-E

Section F-F

PRELIMINARY

davenport architecture
Education | Residential | Commercial | Leisure | Master Planning
Mere House, Brook Street, Knutsford, Cheshire, WA16 8GP
Tel: 01565 360419

Project Title

Charles Ransford & Sons
Proposed treatment building

Drawing Title

Proposed GA Sections
E-E & F-F

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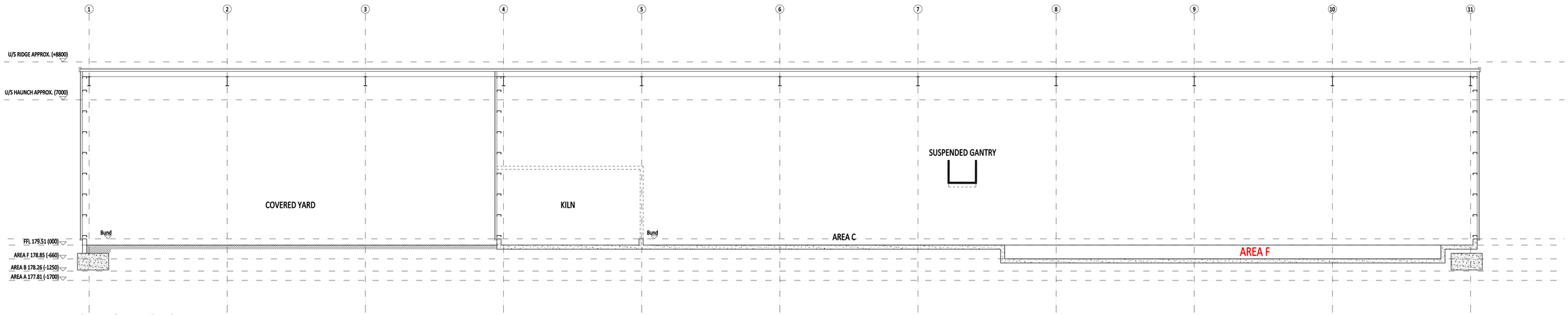

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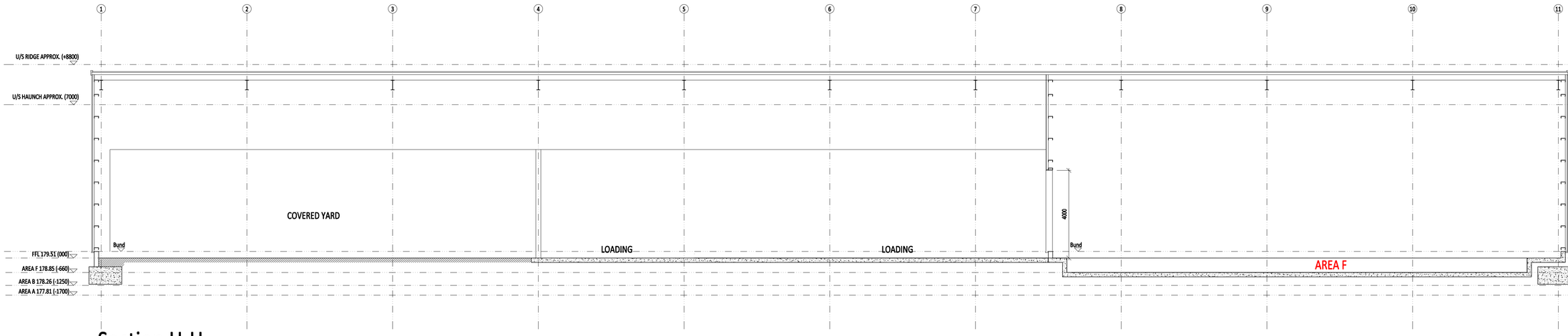

Section H-H

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davenport architecture
Education | Residential | Commercial | Leisure | Master Planning
Mere House, Brook Street, Knutsford, Cheshire, WA16 8GP
Tel: 01565 360419

Project Title

Charles Ransford & Sons
Proposed treatment building

Drawing Title

Proposed GA Sections
G-G & H-H

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Job Number		Checked
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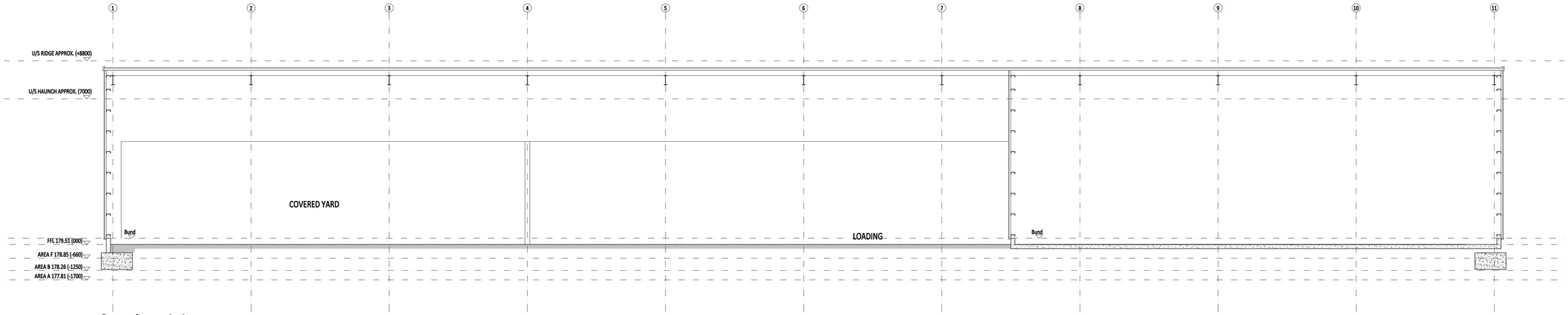

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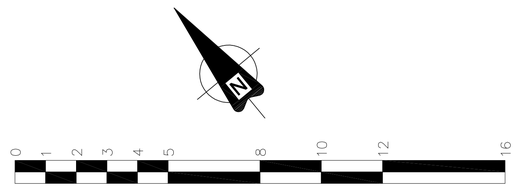

PRELIMINARY

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Project Title

Charles Ransford & Sons
Proposed treatment building

Drawing Title

Proposed GA Sections
J-J

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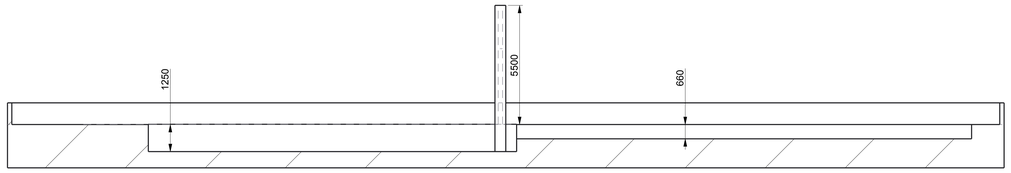

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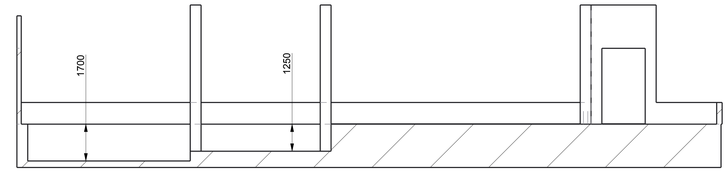

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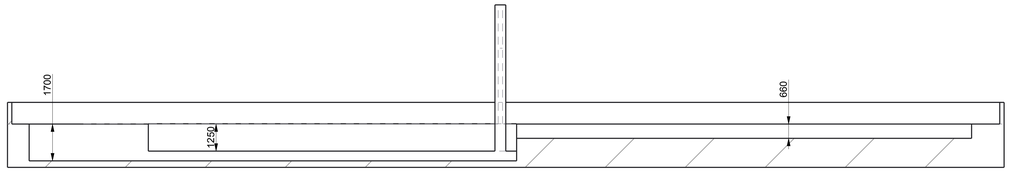

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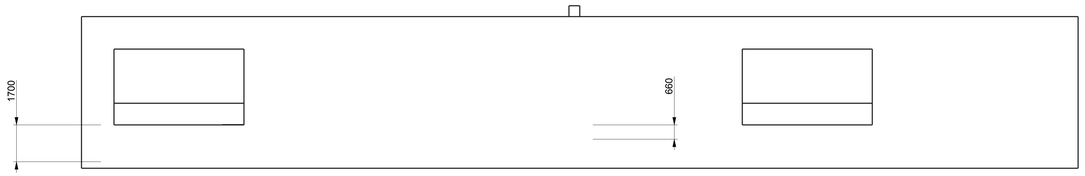

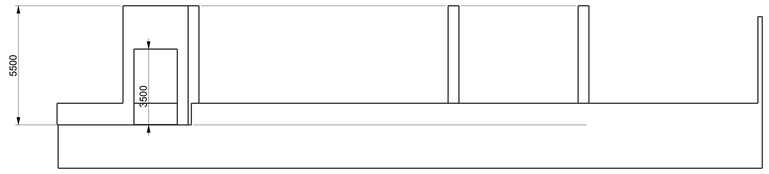

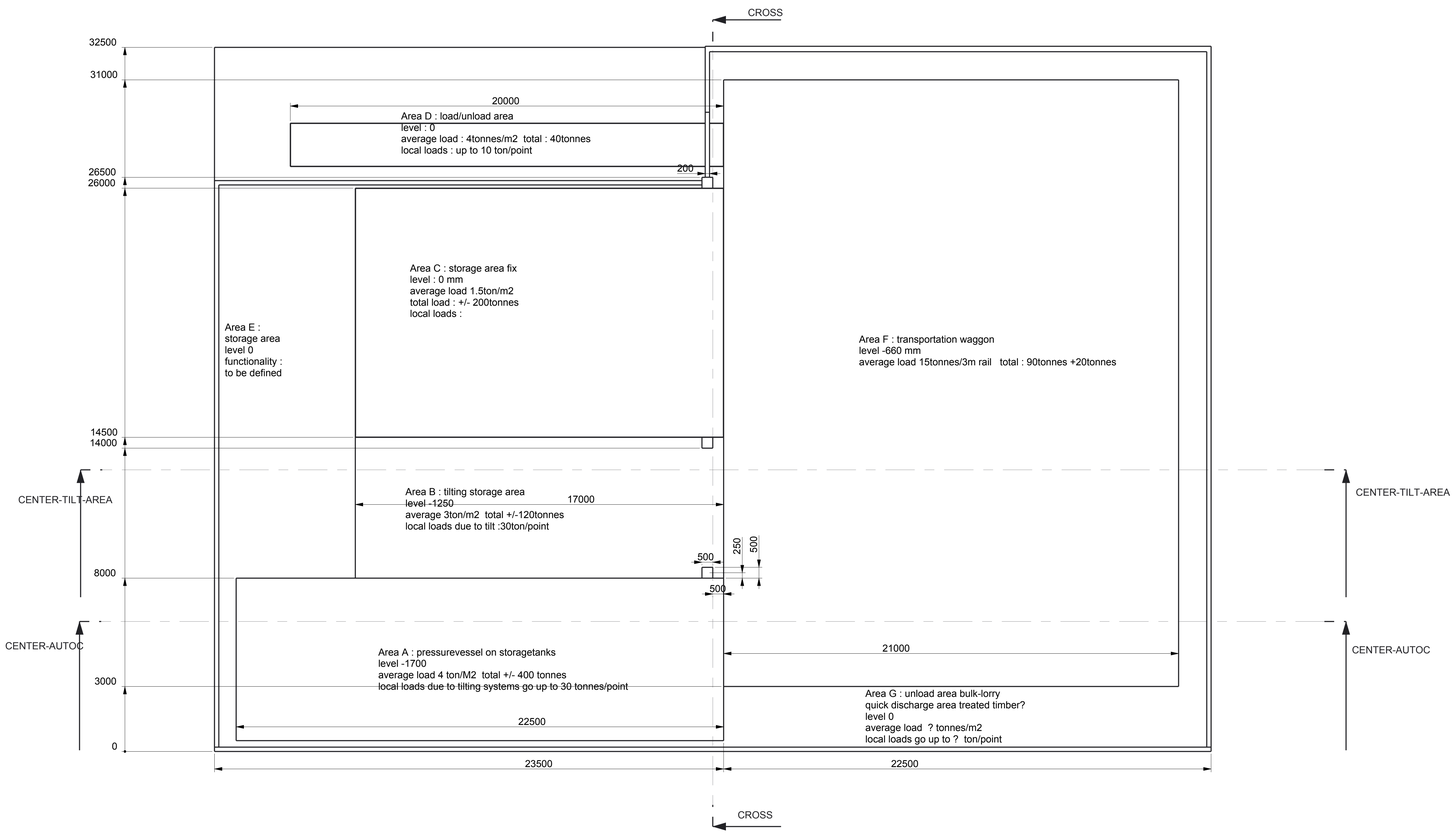

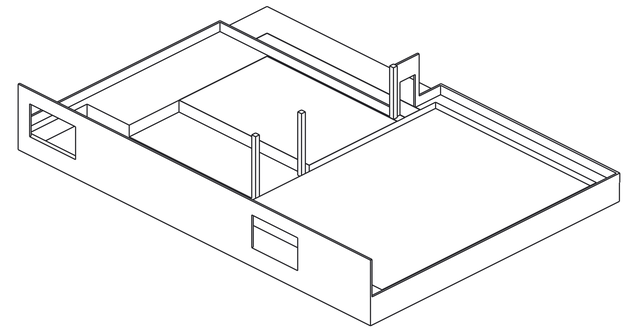

Tolerantie: ISO 2768-2-m algemene tolerantie ± 0.1mm tenzij anders aangeduid

Stavelse Metaalbouw NV
Kallestraat 25
B-8691 ALVERINGEM
TEL 0032 57 301 311

No reproduction allowed

MODELNAME: A1702-BETONPUT

SHEET 1 OF 1

DRAWN:	SCALE:		REV:	FORMAT:
****	1/100	PLAN NR: A1702-BETONPUT		A0
DATE: 21-08-2017	WEIGHT(kg) 5381913,942	MAT: BETONVLOER		

Appendix B

Technical Specifications

Charles Ransford & Son Ltd
Station Street
Bishops Castle
GB-SY9 5AQ Shropshire

Mr Craig Leitch
c.leitch@ransfords.co.uk
Tel 0044 1588 638 331
Fax 0044 1588 638 853

Budget offer

1 Autoclave compact 3,0.15 with 10 bogie parking areas

Number of pages: 20

CONTENTS

1 INTRODUCTION

Many thanks for your request for a quotation. Please find below our proposal which is bound by our General Sales and Delivery Conditions ed. 05/2011. Exceptions to these may only be permitted if confirmed in writing by us.

With the compact **3,0.15** autoclave with conveyor system, Stavelse Metaalbouw nv launches a new generation of machines for the impregnation of timber.

The compact **3,0.15** is a machine for treating flat timber bound in packages.
It's very important that packages stacked on top of each are positioned equal to the lower package.

The compact **3,0.15** uses Schneider PLC. A HMI is added.

The mechanical part of the machine consists of the storage tank, mixing tank and the cylinder mounted on top. In front of the cylinder there is a movable hydraulic bridge and behind it, **the** transport waggon, 10 loading areas in the building en 1 loading and unloading area outside.

The pumps, motors, valves etc are on the same side as the hinge of the door. Maintenance visits are also made on this side.

2 GENERAL DESCRIPTION AND SPECIFICATIONS

2.1 Machine (for water-based non aggressive products)

2.1.1 Machine specifications (storage tank and mixing tank under the vessel)

Minimum timber charge of 20 m³ and the timber packages have to be bound.

Maximum timber load:	Length:	15 m
	Height:	2,35 m
	Width:	1,2 m

2.1.2 Electricity

Voltage:	3 x 400 V 50 Hz + N + PE ± 5%
Total installed capacity:	according to options
Earth:	< 10 Ohm
Floor:	Industrial floor, see foundation plans

2.1.3 Dimensions

Machine without bridge, transportwaggon and bogies	ca. 21 500 mm x 3 900 mm x 6000 mm (L x W x H)
Weight of the machine without conveyors:	ca. 72 ton

2.1.4 Consumption

Machine at full load:

2.2 PLC-control

Type: Schneider

Specifications:	XBT 7340

2.3 Transportwaggon

Consists of a solid construction with 2 areas for bogies. At the bottom in cross direction profiles are provided to which the wheels are fixed to move in cross direction. They are driven by an engine of 3 kW. At the top of the transportwaggon hardox gear racks are fixed to move the presswaggons. Two waggons are moving by means of an engine of 3 kW (each waggon).
In front there is an automatic system to clamp and move the timber load.
Clamping the timber bogies happens by means of a pneumatic system.

At the bottom of the transportwaggon, drip trays are provided to return the dripped product towards a pit and afterwards it's brought back to the storage tank by means of a pump.

The whole is blasted and painted in 2 components primer and final coat.

2.4 Rails under the transportwaggon

On the ground, under the transportwaggon, profiles are provided over the whole length of the installation so that it can be moved from in front of the autoclave until the load outside.

The profiles are aligned in cross and in longitudinal direction in order to guarantee the good working of the transportwaggon.

The whole is blasted and painted in primer and final coat.

2.5 Hydraulic bridge

The bridge goes upwards hydraulically (in vertical position) automatically. So you can close or open the door. After opening, you can move the bridge in horizontal direction.

Length hydraulic bridge: ca 3,9 m

The whole is blasted and painted

2.6 Cylinder (with minimum 20 m³ timber)

Diameter:	3,0 m
Length:	15 m
Volume:	± 110 000. l

On the inside, there is a conveyor system on which the packages move in and out

Material:	steel plate 1.8935 / EN 10028-3 – thickness 20 mm
Working pressure:	between 0 and 12 bars

Testing pressure: 18 bars

Painted in 2 comp epoxy **(Customer has to check if this paint is suitable for your product)**

2.7 Doors + sealing ring

- 1 hydraulic door type Stavelse Metaalbouw, closed with a clamping ring, commanded by two cylinders.
- Safety pins prevent opening during the cycle.

2.8 Storage tank and mixing tank under the vessel

The collecting tank consists of two sectors.
The sides are made of steel plate, thickness 6 mm.
The floor plate, thickness 8 mm with supports 100/10 underneath. These supports ensure that the base doesn't touch the concrete works of the pit.
Volume: ± 107 000 l
The whole is blasted and painted.

a) Mixing tank
The impregnation product is diluted in this tank until the required concentration is reached. The water of the cooling system is also pumped in here.
Volume: ± 12 000 l

b) Working tank
This tank is filled with the concentrated product.
Volume: ± 95 000 l

2.9 Mixing system

After the right quantity of concentrate has been put in the water, the product can be mixed by means of 1 pump of 4 kW. This pump is also used for pumping the product from the mixing tank to the working tank.

2.10 Pumps

- 2 Robushi vacuum pumps per autoclave, mounted on a common support with an 15kW engine. In the working tank there is a compartment with clean water, used for cooling the vacuum pump.
- 1 pump 0,75 kW per autoclave for pumping the cooling water
- 1 pressure pump of 11 kW per autoclave

2.11 Hydraulic group (autoclave)

- Hydraulic reservoir of ± 140 l
- Working pressure adjustable from 50 to 150 bars
- Electric engine: door, bridge and automatic turning open: 4 kW, tilting and clamping system: additional 5,5 kW engine
- 1 Oil filter
- 1 Hydraulic pump
- Flexibles + all necessary pipes

2.12 Filters

- 1 filter in the vacuum tube
- 1 filter in the pressure tube
- 1 grid on the inside of the cylinder for the flow- back of the product to the working tank
- 1 separator

2.13 Valves and pipes

- All necessary pneumatic commanded valves with electrical control if required
- 2 Pressure regulators
- All necessary pipes

2.14 Compressor

1 Compressor Atlas Copco with engine of 1,1 kW to command all pneumatic controlled valves.

2.15 Three area's for dripping

The first 3 parking area's next to the autoclave are drip area's. When the impregnated load arrives, the load is brought at an angle in longitudinal direction so that the packages can drip during some time. The dripped product is catched by means of drip plates and returns to a container by means of a pump. By means of a pump the dripped product is brought back towards the working tank.

Consist of 3 solid constructions with at the bottom the necessary hinges and cylinders.
At the top there are rails for the bogies and where necessary dripplates are provided between the rails.

The whole is blasted and painted in 2 components primer and final coat.

2.16 7 area's to place bogies with timber

Next to the 3 tilt systems there are 7 area's to place loads.

2.17 1 area for loading and unloading the timber outside + support to place packages against

Outside there is a solid construction on which the timber bogie is placed for unloading the impregnated timber and for loading the timber to impregnate.

By means of the transportwaggon the timber loads are loaded and locked.
When loading starts, a support is put forward hydraulically against which timber packages can be placed so that they are located in 1 area.

The whole is blasted and painted in primer and final coat.

2.18 Testing in our plant

Before the final coating of paint is applied, the machine is completely tested (pressure, vacuum, securities, all cycles, etc). During these tests, the customer is invited to commission the machine in our plant.

2.19 Drawings for the foundations

Drawings are provided for preparing the foundations for the machine. You may not deviate from these drawings without written permission from us. The foundations are one of the most important factors for ensuring that the machine will work correctly and efficiently.
It is extremely important that they can bear the weight of the machine with timber and product. You may wish to contact a local consultant to calculate the precise depth required for the desired stability.

Floor level tolerance: ± 1 mm

When the foundations are completed, the machine is placed in position followed by the bridge and the rails (the rails are fixed with Hilti-type bolts, which require a solid concrete base). Concrete must then be poured around the rails. (Attention: the rails are under the 0-level of the floor: see drawings).

2.20 Certificates

Two certificates from a recognised organisation are available: a) and b)

a) Welding certificate of the cylinder with x-rays
b) Pressure certificate of 50% more than the normal working pressure (18 bars)
c) CE-certificate

2.21 Electrical box

The electrical box is provided on the same side as the hinge of the door and is always fixed directly on to the machine. Inside are all the appliances required to ensure that the machine works correctly and efficiently.

2.22 Manual

The manual is handed over at the beginning of the training programme.

2.23 Conditions of environment

- Minimum temperature in workshop 4°C
- Maximum temperature for running the machine: 25°C
- High moisture or a lot of dust can have a detrimental effect on the working of the machine.
- A lot of sawdust between the pieces of timber can cause a thick layer to build up in the storage tank over time.

3 GUARANTEE CONDITIONS

One year (from the date of the definitive reception) on all the material delivered, with the exception of the material mentioned below.

The guarantee covers all manufacturing faults or defects discovered during a normal use of the autoclave.

Because of the nature of certain parts and the risk for damage resulting from causes over which SM has no control, no guarantee can be given on the following parts:

- Door sealing

Also not included in the guarantee: normal maintenance work undertaken to maintain the machine in good working order:

- Cleaning
- Lubricating
- Maintenance and the replacement of filters
- Wear parts

During the guarantee period, all other faulty parts will be replaced free of charge by our technicians.

Under no condition can Stavelse Metaalbouw be obliged to repair or replace parts which have been damaged due to incorrect handling, maintenance or storage of the autoclave. The same is applicable for the parts which were not treated in accordance with general accepted practice. Changes, treatments or repairs executed by people other than Stavelse Metaalbouw's own personnel are not included in Stavelse Metaalbouw's guarantee or responsibility and are not a valid reason for invoking guarantee clauses or making insurance claims for damage.

4 COMMISSIONING

Machine:

- The provisional reception takes place in our factory during the trials and before the dispatch (for this reception, we invite the customer, some days in advance, to be present at the trials). The definitive reception takes place on site after start-up and training.
- The start-up will be considered as completed and the machine fully commissioned if it has been finished without fault or defect.
- When the reception, for whatever reason outside Stavelse Metaalbouw's control, cannot take place immediately after the start-up, a provisonal reception will count as definitive. With regard to the payment conditions, a provisional reception equates to a definitive reception. The machine cannot be put into production until after the definitive reception.

5 DELIVERY CONDITIONS

5.1 Prices

Stavelse Metaalbouw autoclave compact 3,0.15 + conveyors

5.1.1 Modem

5.1.2 Computer-control and print-out

A HMI is connected to the PLC for operating the autoclave. This gives access to a choice of programmes: 1 saturation programme and 1 saturation programme with an interval. The customer can follow the cycle continuously and intervene if necessary. A print-out is produced at the end of the cycle.

5.1.3 Protection for forklifttruck

Where the forklifttruck is loading and unloading the timber.

5.1.4 Frequence regulator on the pressure pump

5.1.5 Automatic door

By operating a handle which is fitted to a cylinder, the door can be opened or closed.

5.1.6 Security against dry-turning of the vacuum and pressure pump

On the pipes of the vacuum pump and the pressure pump, there is an appliance to stop the machine when it becomes too hot.

5.1.7 12 Profile bogies

Twelve bogies are provided for the timber.

All parts of the bogies are rounded off as much as possible so that the product doesn't stay on the profiles. As a result, most of the product returns into the autoclave so that only a limited quantity reaches the rails. On top of the profiles, there is a plate across the whole length of the bogie.

Bogie – length: 14.5 m with

5.1.8 Support for IBC (4 x)

5.1.9 Press-on system for the timber packages

There are 14 cylinders with a stroke of 550 mm which secure the timber packages in position inside the cylinder.

5.1.10 Operating point (2x)

Control panel situated at the defined zone for operation manually.

5.1.11 Second product tank

This product tank is located next to the first product tank and on the same level beneath the cylinder. Attention: if two different products are used, residual product may remain in the tubes and be transferred to the other tank.

The collecting tank consists of two sectors.
The sides are made of steel plate, thickness 6 mm.
The floor plate, thickness 8 mm with supports 100/10 underneath. These supports ensure that the base doesn't touch the concrete works of the pit.
Volume: ± 107 000 l
The whole is blasted and painted.

a) Mixing tank
The impregnation product is diluted in this tank until the required concentration is reached. The water of the cooling system is also pumped in here.
Volume: ± 12 000 l

b) Working tank
This tank is filled with the concentrated product.
Volume: ± 95 000 l
Additional mixing pump of 4 kW

5.1.12 Two automatic dosage systems

With the computer you can determine the new mixture of the product in the mixing tank. The system is in two parts: a stainless steel or ibc vessel for transferring the concentrated product to the mixing system and another system for measuring the quantity of litres of product and water.
Not applicable for pigments.

5.1.13 Fixed dosage system (1 x)

5.1.14 Plates for sealing between the storage tanks – 27,5 m

- Plates for sealing the pit in a longitudinal direction between the two storage tanks
- Plates in cross direction between the two storage tanks

5.1.15 Concentrate tank

- Vessel 30 000 l, single-walled, stainless steel, diameter 1900mm, length 2000mm
  Pipe 3" stainless steel with valve and check valve
- Additional pipe in stainless steel + 1 check valve + 1 manual valve
- Additional transport

5.1.16 Height measurement in concentrate tank in stainless steel

5.1.17 Tilt system under 8°

The 2 cylinders are tilted by a cross directional cylinder at an angle of 8°. On the other side of the cylinder there are 4 hinge points.

5.1.18 CE for tilt system

The system consists of an electronical beam which prevents the cylinder from tilting when somebody is in the risk zone. At the side of the cylinder there is a network.

2 light protections
4 with safety contact
30m protection

5.1.19 Baffels in the cylinder to reduce the cylinder with +/- 33 500 l

5.1.20 Leak detector + additional valve

In the pipe where the product is absorbed

5.1.21 Heating tubes in the working tank

2" tubes with an electrical valve at the entry and at the exit

5.1.22 Start up by our people + training of your staff (8 weeks)

Travelling costs of our technicians

5.1.23 Two weeks standby

Travelling costs of our technicians

5.1.24 Transport

Transport autoclave (2)
Transport storage tanks (4)
Transport transportwaggon (1)
Normal transports (10): rails, bogies, pyramids, hydraulic bridge, protection, concentrate tank…

Transport is included until customer's site at GB-SY9 5AQ Shropshire. The supplier is responsible until arrival of the trucks at the entry gate of the customer's site.

Appendix C

Phase I and Phase II Site Investigation Reports dated February 2017

Appendix D

Habitat and Environmental Assessment

TerraConsult

January 2018
Report No 3057/R/002/1

RANSFORDS WOOD TREATMENT PART A2 PERMIT VARIATION APPLICATION

HABITATS AND ENVIRONMENTAL ASSESSMENT

Prepared for:

Charles Ransford and Son Ltd

RANSFORDS WOOD TREATMENT PART A2 PERMIT VARIATION APPLICATION

HABITATS AND ENVIRONMENTAL ASSESSMENT

Date: January 2018

Prepared for:

Ransford Sawmills
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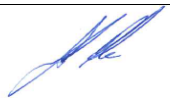
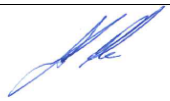
DOCUMENT INFORMATION AND CONTROL SHEET

Document Status and Approval Schedule

Report No.	Title
3057/R/002	Habitats and Environment Assessment

Issue History

Issue	Status	Date	Contributors	Signature	Date
0	Issued for client review	January 2018	**Prepared By:** Claire Finney		12/12/17
			Checked By: Phil Roberts		24/12/17
			Approved by: John Baxter		12/01/18
1	Issued to LA		**Prepared By:** Claire Finney		29/01/18
			Checked By: Phil Roberts		29/01/18
			Approved by: John Baxter		29/01/18

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CHARLES RANSFORD AND SON LTD

WOOD TREATMENT FACILITY

PART A2 PERMIT VARIATION APPLICATION: HABITATS AND ENVIRONMENTAL ASSESSMENT

CONTENTS

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1 INTRODUCTION

1.1 Background

1.1.1 This report has been prepared in response to Section B2 of the form 'Application for a variation of permit conditions' issued by Shropshire Council. Question B2.1 and B2.2 asks prospective operators to assess the potential significant local environmental effects of any emissions as a result of the proposed change to the installation. This requires the operator to provide an assessment of whether the installation is likely to have a significant effect on Sites of Special Scientific Interest (SSSIs) or European protected sites. This report will consider the impact of the current and proposed activities carried out at the site.

1.1.2 This risk assessment process has been conducted by reference to Environment Agency Guidance on 'risk assessments for your environmental permit' (1 February 2016) available as web-based guidance which also provides justification for the use of other more specific risk assessment methodologies if required. This assessment will consider impacts on amenity and other environmental receptors, including potentially sensitive habitats as a result of the current and proposed activities to be included in the Part A2 permit boundary.

1.2 Assessment of Environmental Risk

1.2.1 The Agency guidance document requires that everyone applying for a new environmental permit (other than a standard permit) or variation to an existing permit should present information in the form of risk assessments considering odour, noise, fugitive emissions (including dust), pests, birds and vermin and visible plumes. Identification of accidents scenarios and their prevention through operational management should also be detailed.

1.2.2 Where relevant hazards are identified, they should be considered with regard to potential receptors and the pathway from the hazard to those receptors. In addition the tables should also include the preventative risk management practices to be employed along with an assessment of the mitigated risk. These tables will be included in this assessment if a viable source of potentially harmful emissions is identified in combination with a potential pathway and sensitive receptor.

2 SCOPE OF THE ASSESSMENT

2.1 Non-Technical Summary

2.1.1 TerraConsult Limited (TerraConsult) was commissioned by Charles Ransford and Son (Ransfords) to prepare an application to vary their Part A2 Environmental Permit (Permit reference EPRA140 to extend the boundary of the installation to include an additional wood treatment facility and provide additional storage within their Bishop's Castle sawmill site. The site currently is permitted to operate a wood preservation installation under listed in Part 2 to Schedule 1 of The Environmental Permitting Regulations (England and Wales) 2016 for wood treatment of >75 m^3 of wood per day. A site plan (drawing reference 3057/1/002) showing the location of the current and proposed timber treatment facility is provided with this report.

2.1.2 In the proposed facility the wood is placed in air-tight vessels. The vessels are then flooded with a liquid treatment agent and left to soak under positive pressure. The pressure is released, the vessels emptied of liquid, the wood removed and left to stand whilst the excess liquid drains off and the wood dries. This wood product is then packaged for export from site. All these activities are carried out inside an enclosed shed, on an impermeable surface with sealed drainage. There are no point source air emissions from the process. Further details of the process are provided in the accompanying Installation Report referenced 3057/R/001/01.

2.2 Potential Hazards Associated with Activity

Contaminated water

2.2.1 Exposure to the treatment agent may occur when:

- vessels are filled with wood (residual liquid from previous treatments);
- liquid stored in the mixing tanks beneath the pressure vessels;
- treatment agent is drained from the vessels into the mixing tanks; and,
- wood is removed and stacked for draining and drying.

2.2.2 In the current and the proposed timber treatment facilities the treated wood removed from the vessels will be saturated with a solution containing the treatment agent. The treated wood is then stacked on the impermeable surface in the covered yard or in the main building directly adjacent. The entirety of the sealed surfaces are kerbed by the walls of the building. In the proposed timber treatment building a 300mm bund is constructed around the entire building footprint. The slope of the floors mean any free liquid that does drain from the treated wood will flow toward the vessels via gullies and into the underlying catch pits for re-use.

2.2.3 The whole process of wood treatment at the current and proposed timber treatment facilities takes place inside enclosed sheds. There are no engineered connections which may allow potentially contaminating liquid to leave the building deliberately or accidentally to impact on external receptors. The treatment agent is not agitated excessively in the mixing tanks and is unlikely to produce aerosols or spray into the air. The risks associated with potential emissions of contaminated water are discussed in Table 1. Operational practices relating to liquid management, the nature of the preservative used and potential historic contamination are discussed further in the Installation Report referenced 3057/R/001/01 and accompanying Phase I and Phase II Site Investigation Reports attached at Appendix C of the Installation Report.

Odour

2.2.4 The water-based treatment agents utilised at both the current and proposed timber treatment facility are listed in Table 1 of the Installation Report (Report Ref: 3057/R/001/01) do not have a strong odour potential. The proposed activity proposes to use the water-based treatment agents as currently utilised on site. No personal or vehicular respiratory measures are required when operating in the existing building and there is no distinct odour unless standing in the immediate vicinity of treated wood or the mixing tanks. What limited odour is present is not considered to be offensive in nature. The inclusion of an additional timber treatment facility and storage area is not considered to contribute any additional risk of odour based on the low odour potential of the treatment agents to be used.

2.2.5 The large doors to the sheds are open the majority of the time during normal site operations and the proposed facility is also proposed to operate with the main steel access doors open. There would be potential for odours to escape the building if a significant source were present. However the low odour potential of the treatment agent means that odour is not detectable immediately outside of the existing building and it is thus considered unlikely that it will be detectable outside the proposed building. It is therefore in addition very unlikely odour would be detectable at adjacent receptors. It is understood no odour complaints have been received by the operator or regulator relating to this process. Odour will not be considered further by this assessment, however if the operator changes treatment agents in the future they should make appropriate consideration of its odour potential. Odour will be controlled on site in accordance with Condition 25 of the permit.

Noise & Vibration

2.2.6 Noise and vibration result primarily from the operation of the vacuum pumps, movement and operation of site plant and other on-site equipment during operational hours. All activities are carried out inside buildings within the busy and potentially noisy sawmill complex. The plant has been operational on site in its current form for a number of years and the activities will not change as a result of this application. It is understood no noise complaints have been received by the operator or regulator. To address this at the current facility internal wooden doors were installed across the internal threshold of the treatment vessel outrigger and main building which are closed when the treatment process is active. The proposed new timber treatment facility will additionally operate using pumps creating an additional source of noise. The main activities are all to be undertaken in the building. Sections of the building are bunded by overgrown hedging and self-seeded trees which contribute to mitigation from noise and vibration associated with the operation of the plant.

2.2.7 Mitigation measures such as but not limited to those listed in Table 5.3 of SG11 will be implemented (BAT 115). The noise and vibration emissions from the proposed activities will be controlled in accordance with Condition 24 of the permit. No additional noise and vibration measures are considered necessary. Noise will not be considered further by this assessment.

Dust

2.2.8 The current activity does not generate significant quantities of particulate matter and this is unlikely to change as a result of the proposed activity. No wood cutting or mechanical finishing is employed in the existing building before or after the treatment process. No wood cutting or mechanical finishing is proposed to be carried out as part of the proposed timber treatment facility. The treatment agent is diluted and is fully absorbed into the wood. This does not leave a surface residue which might flake off and cause dust. The most likely source of dust or particulates is other background sources arriving with the untreated wood or those blown in from other areas of site.

2.2.9 All current and proposed activities to be regulated under the permit will be carried out inside the buildings and will continue to do so for the foreseeable future. Although the doors to the

sheds are often left open, the likelihood of wind-blown dust or particulates being mobilised from the activities are minimal. All site surfaces will continue to be maintained and cleaned as necessary to minimise the accumulation of mud or dusty materials. Fugitive dust emissions will not be considered further by this assessment. Fugitive dust emissions are not considered to increase as a result of the proposed timber treatment activities.

Litter

2.2.10 Raw wood product received on site for treatment in either the current or proposed timber treatment buildings may contain material which could present a litter risk such as bark, saw dust or wood shavings. All wood deposited inside the existing or proposed buildings have been pre-cut elsewhere and all bark, chippings etc. removed. Loose fine material will continued to be checked for as a matter of routine and managed to ensure that it does not cause a litter problem. Routine inspections will be carried out to ensure that any residual material escaping the buildings or delivery vehicles will be collected on a regular basis to avoid any off site wind-blown litter. Fugitive litter emissions are not considered to increase as a result of the proposed timber treatment activities. Fugitive litter emissions will not be considered further by this assessment.

Pests and Vermin

2.2.11 The nature of materials to be treated at site is unlikely to attract pests and vermin. This is not expected to change with the addition of the proposed timber treatment facility. Animals or insects may attempt to shelter in the buildings, however the rate of product throughput and vehicular activity would disturb them from taking up long term residence. If pests or vermin did become an issue, the operator will employ suitable contractors to control any infestation. Pests or vermin are not considered to increase as a result of the proposed timber treatment activities and are no considered further by this assessment.

Visible Plumes

2.2.12 There are no activities carried out within the current or proposed installation which may result in a visible plume e.g. dust from cutting operations or products from fuel or waste combustion (smoke or other fumes). Visible plumes will not be considered further by this assessment.

Fires

2.2.13 No combustion or combustive power generation activities are carried out within the current or proposed activity boundary. The wood being treated has the potential to be a significant fuel source in the event of a fire breaking out. There will be an increase in the amount of wood stored on site as a result of the proposed timber treatment activities. Fires are considered in more detail in the accompanying Installation Report referenced 3057/R/001.

2.3 Hazard Pathways and Receptors

Hazard Pathways

2.3.1 When choosing the receptors, the closest and the most sensitive (if different from the closest) have been considered in each direction from the hazard. As the site boundary has increased the receptors have been reviewed to ensure any new receptors to the south east of the site are accounted for. Account has be taken of the mechanism of transport to the sensitive receptor e.g. proximity to highway access and wind direction for airborne dust.

2.3.2 There may be an interrelationship between these risks and meteorological conditions. The pathway is determined by the location of the receptor relative to the site, the distance from the site boundary (m) and the frequency (likelihood) the prevailing wind will blow in the direction of the receptor as determined by historical windrose data available for Overton from the www.windfinder.com website. Overton is located 25 km to the southeast of Bishop's Castle and given the similar terrain expected to provide representative meteorological data.

Probability of Exposure

2.3.3 Probability of exposure is determined by the distance of the receptor to the site and the likelihood of the hazard reaching the receptor (e.g. frequency of prevailing wind in that direction). This stage of the assessment that exposure has resulted from an uncontrolled emission i.e. without mitigation.

Hazard Receptors

2.3.4 The nearest sensitive receptors to the site are identified in Table 1 below. The distance of these receptors to the site boundary, their direction relative to the site and the frequency the wind blows in the direction of the receptor is detailed in Table 1. Distance has been taken as measured from the site boundary (as indicated in Drawing 3057/R/001).

Amenity Receptors

2.3.5 A number of the identified receptors are unlikely to be sensitive to the types of emissions identified in Section 2.2 were they to occur. The agricultural land to the north and east would not be affected by odour, noise or low levels of particulate emissions. These emissions along with litter and vermin would however have the potential to impact the residents in the domestic properties to the south and the adjacent town. The proposed timber treatment activity will not pose additional risk to the employees of Ransfords Sawmill itself who are unlikely to be adversely affected as they are used to the operations in the complex including the current timber treatment facility and are given appropriate PPE to mitigate against any impacts identified and accept the site setting as being intrinsic to their employment.

Table 1. Sensitive Receptors

No.	Receptor	Distance	Direction from Site	Frequency Down-Prevailing Wind Direction (%)
1	Agricultural land	60 m	N to SE	8 to 6
2	Wider Ransfords sawmill complex and timber treatment building	0 m	NE to E	8.6 & 7.2
3	Industrial units	<10 m	E to SE	7.2 & 6
4	Domestic housing	50 m	S to SW	4.9 & 4.3
5	Commercial units	60 m	W	3.7
6	Egg packing station	40 m	NW	6.4
7	Library	80 m	N	8
8	Hospital	400 m	WNW	5.1
9	Linley Big Wood (SSSI)	5.9 km	NNE	5.7
10	The Stiperstones and the Hollies (SAC)	9.6 km	N	8
11	Flat Coppice (SSSI)	6.5 km	ESE	7.4
12	Hillend Quarry (SSSI)	5.7 km	E	7.2
13	Long Mynd (SSSI)	5.9 km	E	7.2
14	Pentre Wood(SSSI)	4.8 km	NW	6.4

Sensitive Habitat Receptors - SSSIs

2.3.6 The nearest sites of Special Scientific Interest (SSSI) are the Long Mynd (England) and Pentre Wood (Wales) SSSIs which are 5.9 km to the east and 4.8 km to the north west respectively. The Long Mynd site is so designated because of its Dwarf Shrub Upland Heath habitat. The Pentre Wood site is cited as an example of ash-wych elm woodland with frequent oak, field maple and hazel. No new SSSIs have been identified since the initial risk assessment for the current timber treatment activity.

Sensitive Habitat Receptors - SACs

2.3.7 The nearest Special Area of Conservation (SAC) is the Stiperstones and the Hollies SAC approximately 9.6 km to the north of the application site. It is classified as a European site due to its status as a dry heath which contains features transitional between lowland heathland and upland heather moorland. No new SACs have been identified since the initial risk assessment for the current timber treatment activity.

2.3.8 There are no RAMSAR or SPA sites within 13 km of the application site. If the SSSI or SAC sites identified were sufficiently close to the site they may be sensitive to disturbance by noise, predation by vermin attracted to the facility or their quality degraded by wind-blown litter.

2.4 Risk Assessment

Amenity Impacts

2.4.1 It has been determined that the proposed activity is unlikely to be an additional significant source of odour, noise, dust, litter and visible plumes, nor is it likely that pests or vermin will be attracted to the activity. Although there are a number of sensitive receptors in close proximity to the activity, particularly with the extension of the Site boundary to encompass the proposed timber treatment activity, it is unlikely they will be adversely impacted. The significant distance and terrain barriers between the site and sensitive habitats also makes it unlikely they will be impacted in any way. All activities that have any potential to cause nuisance are carried out within the current and proposed buildings. Any changes to operational practices on Site will cause the operator to re-evaluate such risks.

Impacts to Surface Water

2.4.2 The wood treatment process, utilised in the current and proposed timber treatment facilities, requires the use of a large volume of liquid chemical agent on a continual basis. These chemicals may have a harmful effect on a water course or groundwater if it were to enter them in significant quantities.

2.4.3 The current and proposed wood treatment activities are carried out inside enclosed buildings on an impermeable surface with sealed drainage. For the proposed timber treatment building there is no direct connection from the inside of the shed to external drainage via an engineered system. All free liquid draining from the treatment vessels or the surfaces where treated wood is left to dry flows via channels to a concrete-lined mixing tanks recessed into the floor where it can be re-used for the treatment process. In the proposed building the free liquid from the treatment vessels or the surfaces where the treated wood is left to dry is caught in catch pits and pumped back into the working tank. There is sufficient capacity in the tanks and bunded area (150 % of total volume of liquid stored on site) to contain the liquid if one of the tanks or vessels in the current or proposed timber treatment building were to fail and all liquid contained within was to discharge.

2.4.4 The main access points to the proposed building are at the highest point of this gradient and if there were to be any spillages it is very unlikely liquid will flow out of the doors and onto external ground as the entire building has a 300mm bund. The treatment agents are not to be applied to the wood by spray or similar method so atomisation of the liquid into an aerosol which may leave the premises as fugitive emission is unlikely.

Environmental and Accident Risk Assessment

2.4.5 The Agency Guidance requires the completion of Environmental and Accident Risk Assessments and Management Plans in accordance with the guidance. This should assess potential hazards identified as being associated with the proposed activity. Detailed operational procedures for the management of the site will be listed in the associated

Management Systems. The Accident Risk Assessment is a summary of the Accident Management Plan for the site in accordance with draft Sector Guidance Note SG11 Guidance for Wood Products Preservation with Chemicals.

2.4.6 The risk assessment table represents the risk of exposure to a hazard before mitigating controls are put in place. The table comprises the cumulative risk from the current and proposed timber treatment activities on site. The probability of exposure is not necessarily a reflection of the severity of the impact on the receptor, which may not be sensitive to the hazard. The severity of the unmitigated consequence presumes the receptor has been exposed to the hazard. However, if the receptor is unlikely to be exposed, then the overall unmitigated risk is low and vice versa. The mitigated risk is the residual risk presented by the hazard after control measures have been instigated. This is the most realistic representation of the risk as effective controls will be maintained under the requirements of the environmental permit and the operators Management Systems.

Table 2. Water Fugitive Emissions Risk Assessment and Action Plan

Hazard	Receptor	Probability	Consequence	Overall Risk	Risk Management	Residual Risk
Contaminated Water from wood treatment agent as received at site and normal site operations **Spillages** of liquids on site **Leakages** from vehicles	Neighbouring residential and businesses properties	Low – lack of pathway	Medium – human health if direct contact is made	Low	Engineered site concrete surface and drainage systems will prevent uncontrolled surface water run-off from site.	Low
	Water courses to the south of site.	Medium – surface run-off / shallow groundwater pathways	High – aquatic pollution	Medium	In-building, engineered site concrete surface and drainage systems will prevent uncontrolled surface water run-off from site. Liquid from operational areas will not be discharged to surface water or drains. Sealed surfaces of site will prevent pathway from existing between surface and groundwater. The proposed timber treatment facility will be on an impermeable surface with a 300mm bund around the perimeter of the building. Spill kit kept on site and site operatives aware of spillage procedures. All site plant/vehicles to be properly maintained.	
	Local Groundwater	Low – site surfaced	Medium – groundwater pollution	Medium	Sealed surface of site will eliminate pathway between surface and groundwater. The proposed timber treatment facility will be on an impermeable surface with a 300mm bund around the perimeter of the building. Engineered site concrete surface and drainage systems will prevent uncontrolled surface water run-off from site. Liquid from operational areas will not be discharged to surface water or drains. Spill kit kept on site and site operatives aware of spillage procedures All site plant/vehicles to be properly maintained	

Table 3. Accident Management Plan Summary

Hazard	Receptor	Pathway	Probability	Consequence	Overall Risk	Risk Management	Residual Risk
Fuel / engine oil leak	Surface water / groundwater	Site drainage / Runoff	Low	Medium - pollution of surface water	Low	Site vehicles and plant subject to regular preventative maintenance in line with site procedures. Site covered by building above concrete hard-standing. No surface water enters the building and is effectively managed externally.	Low
Fire Uncontrolled burning of wood, site facilities or forklift diesel	Surface water / groundwater	Site drainage	Low	Medium - pollution of surface water / groundwater through firewater run-off or leaks from damaged equipment	Medium	Site to be operated in accordance with EMS and Installation Report. Internal building surface ensures fire waters will run to an enclosed sump. The proposed timber treatment facility will be on an impermeable surface with a 300mm bund around the perimeter of the building. Damp wood has lower combustion potential. No deliberate burning of wood or other fires to be undertaken at site. Fire detection system installed in current and proposed timber treatment buildings. Fire control equipment will be on hand, with major incidents to be dealt with by the Fire Brigade in accordance with the site procedures. Appropriate maintenance carried out on forklift vehicles. No smoking on site.	
	Receptors listed in Table 1 Site personnel	Airborne	Low	High - smoke / odour annoyance High – Site personnel injury			
Chemicals used Chemical reaction of incompatible treatment agents	Receptors listed in Table 1 above Site personnel	Airborne	Low	Medium - odour annoyance or smoke from oxidising agents High – Site personnel injury	Low	Site management systems will exclude the receipt of chemically reactive treatment agents. Those used will not generate noxious gases.	
Vandalism Damage to site vehicles, plant, or buildings.	Surface water / groundwater	Site drainage	Low	Medium - pollution of surface water / groundwater through leaks from damaged equipment	Low	Site security will prevent access by unauthorised persons.	

3 CONCLUSIONS

3.1.1 The risk assessments detailed above indicate that the proposed timber treatment activity is are unlikely to cause any additional disturbance to the surrounding area. The currently employed mitigation measures and proposed mitigation measures are adequate in controlling any potential emissions that may arise from the site. As expressed previously residential and commercial properties in the vicinity of the site are most sensitive to proposed site operations. However given the low potential for the site to generate excessive noise, dust, odour and litter and appropriate mitigation measures employed at the site means these properties will continue to not be affected by the activities.

3.1.2 Accidents such as fire / explosion or leakages may pose a threat to the local environs. However safe site working practices, effective control measures make such accidents highly unlikely. It is considered that the safe site working practices currently undertaken on site are adequate for the proposed activities.

3.1.3 The site design provides and impermeable surface to mitigate the contamination of surface water and ground water. The proposed building will benefit from site containment which has been designed to retain any fire water in the event of a spillage or fire incident at the site.

3.1.4 It has been concluded that with the use of the current appropriate mitigating controls, the proposed facility will not present any additional significant risk to the surrounding receptors.

Appendix E

Wood Treatment MSDS

SAFETY DATA SHEET

according to 91/155/EEC

1 Substance/preparation and company name

Trade name: **Wolmanit® ProAdd DF**

Company: Dr. Wolman GmbH, Postfach 1160, D - 76545 Sinzheim

Emergency information: Product Management Tel. ++ 49 7221 800-0 or 800 – 234

2 Composition/information on ingredients

Chemical nature: Additive for wood preservatives based on polydimethylsiloxan, emulsifier, formulation auxiliary and water

Contains

CAS number	Name	%	Classification	R-phrases
—	—	—	—	—

3 Possible Hazards

Principal hazard:

Critical hazard to man and environment: Not required

4 First aid measures

General advice	—
if inhaled:	—
on skin contact:	After contact with skin wash thoroughly with plenty of water
on contact with eyes:	Wash immediately affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist
on ingestion:	Rinse mouth immediately, seek medical attention

5 Fire fighting measures

Suitable extinguishing media:	Water, foam, powder, dry extinguishing media, CO_2
Extinguishing media not to be used:	—
Special protective equipment:	No special measures necessary

® = Registered trademark of Dr. Wolman GmbH

6 Accidental release measures

Personal precautions: Ensure adequate ventilation

Environmental precautions: Do not discharge into drains or into the soil

Methods for cleaning up: Soak up with absorbent material. Prevent larger amount from spreading and pump into suitable container if possible

7 Handling and storage

Handling:
The precautions generally taken with chemicals are to be observed when handling and applying the product. Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke.

Storage:
Store in original container in a dry and cool place. Keep out of reach of children.
Ensure thorough ventilation of storage and work areas. Protect from acids and acid forming.

8 Exposure controls and personal protection

Additional information on the lay-out of technical plant: see 7

Personal protective equipment:

Respiratory protection: Breathing protection if ventilations inadequate

Hand protection: Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chlorophene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other.

Eye protection: Tightly fitting safety googles (EN 166)

Body protection: Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to DIN-EN 465).

General safety and hygiene measures:
Observe the precautions generally taken with chemicals

9 Physical and chemical properties

Form:	liquid
Colour:	white
Odour:	characteristic
Melting point /melting range:	—
Boiling point / boiling range:	—
Flash point:	not applicable
Ignition temperature:	—
Explosion limits:	—
Vapour pressure:	—
Density:	approx. 1 g/cm³ at 20 °C
pH-value:	approx. 7 at 20 °C
Solubility in water:	miscible
Viscosity:	approx. 1000 mm²/s

10 Stability and reactivity

Conditions to be avoided: —

Substances to be avoided: —

Hazardous decomposition products: No decomposition if correctly stored and handled

11 Toxicological information

Acute toxicity:

LD_{50} oral (rat): —

Primary irritation:

Skin irritation: not irritant
Eye irritation: not irritant

Sensitisation: no sensitising effects known

12 Ecological information

General advice:
Observe the legal provisions regarding the prevention of pollution of ground and surface water as well as air and soil. Do not discharge product into natural waters without pre-treatment.

13 Disposal considerations

Product:
Recommendations: Dispose of by special means in accordance with local regulations e.g. suitable incineration
Recommended waste key: 16 05 09 “discarded chemicals”

Contaminated packaging:
Recommendations: After employing and appropriate cleaning containers can be recycled or given back to the producer

14 Transport information

Land transport ADR/RID and GGVS/GGVE (international/national):

Class:	—
UN-number:	—
Description of the good:	—
Packaging group:	—

Sea transport IMDG/GGVSee:

Class:	—
UN-number:	—
Proper shipping name:	—
Packaging group:	—
EMS-number:	—
MFAG:	—

Air transport ICAO-TI and IATA-DGR:

Class:	
UN-number:	—
Proper shipping name:	—
Packaging group:	—
	—

15 Regulatory information

Labelling according to EC Directives: Not subject to labelling

National legislation / regulations:

Water hazard class: WGK 2 – water hazardous (self-classification – Germany)

16 Other information

All information is given in conjunction with the Technical Leaflet. The information contained herein is based on the present state of our knowledge and does not therefore guarantee certain properties. Recipients of our product must take responsibility for observing existing laws and regulations.

We create chemistry

Safety data sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Wolmanit ProAdd T1669

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use: Additive for wood preservatives

1.3. Details of the supplier of the safety data sheet

Company:
BASF Wolman GmbH
Dr.-Wolman-Str. 31-33
76547 Sinzheim, Germany

Telephone: +49 7221 800-0
E-mail address: product-safety-wolman@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

Skin Corr./Irrit. 2

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

Pictogram:

Signal Word:
Warning

Hazard Statement:

H315	Causes skin irritation.

Precautionary Statements (Prevention):

P280	Wear protective gloves.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash before reuse.

According to Regulation (EC) No 1272/2008 [CLP]

Hazard determining component(s) for labelling: Fatty Alcohol Ethoxylate

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Preparation based on: Fatty Alcohol Ethoxylate

Hazardous ingredients (GHS)
according to Regulation (EC) No. 1272/2008

Fatty Alcohol Ethoxylate

Content (W/W): < 95 %	Skin Corr./Irrit. 2 H315

2-phenoxyethanol

Content (W/W): < 10 % CAS Number: 122-99-6 EC-Number: 204-589-7 REACH registration number: 01-2119488943-21 INDEX-Number: 603-098-00-9	Acute Tox. 4 (oral) Eye Dam./Irrit. 2 H319, H302

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

First aid personnel should pay attention to their own safety. Immediately remove contaminated clothing.

If inhaled:
If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:
After contact with skin, wash immediately with plenty of water and soap. Under no circumstances should organic solvent be used. If irritation develops, seek medical attention.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: skin irritation

4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

5.2. Special hazards arising from the substance or mixture

Carbon dioxide, carbon monoxide, nitrogen oxides, fumes/smoke, carbon black, corrosive gases/vapours

5.3. Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Do not breathe vapour/aerosol/spray mists. Handle in accordance with good industrial hygiene and safety practice.

6.2. Environmental precautions

Contain contaminated water/firefighting water. Do not allow to enter soil, waterways or waste water channels.

6.3. Methods and material for containment and cleaning up

For small amounts: Pick up with inert absorbent material (e.g. sand, earth etc.). Dispose of contaminated material as prescribed.
For large amounts: Pump off product.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Avoid contact with the skin, eyes and clothing. Smoking, eating and drinking are forbidden in application area. For personal protection see section 8. Comply with the health and safety at work laws. Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:
No special precautions necessary.

7.2. Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE)
Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect from direct sunlight. Store protected against freezing.

Frost sensitive

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

122-99-6: 2-phenoxyethanol

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection:
Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc.
Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures

Do not inhale gases/vapours/aerosols. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid
Colour:	colourless
Odour:	faint specific odour
Odour threshold:	
	No applicable information available.
pH value:	approx. 7
	(50 g/l, 23 °C)
Melting temperature:	approx. 0 °C
boiling temperature:	>= 100 °C
Flash point:	
	not applicable
Flammability:	not flammable
Density:	approx. 1 g/cm3
	(20 °C)
Solubility in water:	soluble
	(20 °C)
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Explosion hazard:	not explosive

9.2. Other information

Miscibility with water:
(20 °C)
miscible in all proportions

Other Information:
If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 10: Stability and Reactivity

10.1. Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.

10.4. Conditions to avoid
See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:
strong oxidizing agents, strong reducing agents

10.6. Hazardous decomposition products

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Experimental/calculated data:
LD50 rat (oral): > 2,000 mg/kg

Irritation

Experimental/calculated data:
Skin corrosion/irritation rabbit: Irritant.

Serious eye damage/irritation rabbit: non-irritant

Respiratory/Skin sensitization

Assessment of sensitization:
There is no evidence of a skin-sensitizing potential.

Germ cell mutagenicity

Assessment of mutagenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Carcinogenicity

Assessment of carcinogenicity:
Not expected to be carcinogenic (based on composition).

Reproductive toxicity

Assessment of reproduction toxicity:

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Developmental toxicity

Assessment of teratogenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Other relevant toxicity information

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity to fish:
LC50 (96 h) > 100 mg/l, Fish (static)

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Readily biodegradable.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Adsorption in soil: Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

12.5. Results of PBT and vPvB assessment

The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

12.6. Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

12.7. Additional information

Other ecotoxicological advice:
The product should not be allowed to reach either sewage waters or water purification plants. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

This material and its container must be disposed of in a safe way.
Must be disposed of or incinerated in accordance with local regulations.

Contaminated packaging:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for	None known

user

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known
Transport in inland waterway vessel:	Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

14.1. UN number

See corresponding entries for “UN number” for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

Biocidal Products Directive 98/8/EC

15.2. Chemical Safety Assessment

Chemical Safety Assessment not required

SECTION 16: Other Information

In addition to the information given in the safety data sheet we refer to the product specific 'Technical Information'.

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

Skin Corr./Irrit.	Skin corrosion/irritation
Acute Tox.	Acute toxicity
Eye Dam./Irrit.	Serious eye damage/eye irritation
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H302	Harmful if swallowed.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.

We create chemistry

Safety data sheet

BASF Safety data sheet according to Regulation (EC) No. 1907/2006
Date / Revised: 23.07.2014 Version: 5.0
Product: **Wolmanit C&T**

(ID no. 30315171/SDS_GEN_GB/EN)
Date of print 14.01.2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Wolmanit C&T

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: wood preservative
Recommended use: wood preservative, for industrial and professional users

1.3. Details of the supplier of the safety data sheet

Company:
BASF Wolman GmbH
Dr.-Wolman-Str. 31-33
76547 Sinzheim, Germany

Contact address:
BASF plc
PO Box 4, Earl Road, Cheadle Hulme,
Cheadle, Cheshire
SK8 6QG, UNITED KINGDOM

Telephone: +44 161 485-6222
E-mail address: product-safety-north@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:

Irritant.
Irritating to eyes, respiratory system and skin.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

According to Directive 67/548/EEC or 1999/45/EC

Hazard symbol(s)

Xi	Irritant.
N	Dangerous for the environment.

R-phrase(s)

R36/37/38	Irritating to eyes, respiratory system and skin.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S2	Keep out of the reach of children.
S13	Keep away from food, drink and animal feeding stuffs.
S20/21	When using do not eat, drink or smoke.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

The product contains: Propiconazole
May produce an allergic reaction.

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Liquid wood preservative, based on: copper(II) carbonate--copper(II) hydroxide(1:1), boric acid, Propiconazole, Trimethyl coco ammonium chloride

Hazardous ingredients (GHS)
according to Regulation (EC) No. 1272/2008

copper(II) carbonate--copper(II) hydroxide(1:1)

Content (W/W): 2.2 %	Acute Tox. 4 (Inhalation - dust)
CAS Number: 12069-69-1	Acute Tox. 4 (oral)
EC-Number: 235-113-6	Aquatic Acute 1
REACH registration number: 01-2119429040-56	Aquatic Chronic 1
	H332, H302, H400, H410

boric acid

Content (W/W): 0.63 %	Repr. 1B (fertility)
CAS Number: 10043-35-3	Repr. 1B (unborn child)
EC-Number: 233-139-2	H360FD
REACH registration number: 01-2119486683-25	Specific concentration limit:
INDEX-Number: 005-007-00-2	Repr. 1B, fertility: >= 5.5 %
	Repr. 1B, unborn child: >= 5.5 %

Propiconazole

Content (W/W): 0.21 %	Acute Tox. 4 (oral)
CAS Number: 60207-90-1	Skin Sens. 1
EC-Number: 262-104-4	Aquatic Acute 1
INDEX-Number: 613-205-00-0	Aquatic Chronic 1
	H302, H317, H400, H410

Trimethyl coco ammonium chloride

Content (W/W): 0.07 %	Acute Tox. 4 (oral)
CAS Number: 61789-18-2	Skin Corr./Irrit. 1B
EC-Number: 263-038-9	Aquatic Acute 1
	H314, H302, H400

Hazardous ingredients
according to Directive 1999/45/EC

copper(II) carbonate--copper(II) hydroxide(1:1)
Content (W/W): 2.2 %
CAS Number: 12069-69-1
EC-Number: 235-113-6
REACH registration number: 01-2119429040-56
Hazard symbol(s): Xn, N
R-phrase(s): 20/22, 50/53

boric acid

Content (W/W): 0.63 %
CAS Number: 10043-35-3
EC-Number: 233-139-2
REACH registration number: 01-2119486683-25
INDEX-Number: 005-007-00-2
Hazard symbol(s): T
R-phrase(s): 60, 61
Repr. Cat. 2

Propiconazole

Content (W/W): 0.21 %
CAS Number: 60207-90-1
EC-Number: 262-104-4
INDEX-Number: 613-205-00-0
Hazard symbol(s): Xn, N
R-phrase(s): 22, 43, 50/53

Trimethyl coco ammonium chloride

Content (W/W): 0.07 %
CAS Number: 61789-18-2
EC-Number: 263-038-9
Hazard symbol(s): Xn, N
R-phrase(s): 22, 38, 41, 50

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

First aid personnel should pay attention to their own safety. Immediately remove contaminated clothing.

If inhaled:
If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:
After contact with skin, wash immediately with plenty of water and soap. Under no circumstances should organic solvent be used. If irritation develops, seek medical attention.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms: Eye irritation, skin irritation

4.3. Indication of any immediate medical attention and special treatment needed
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media
Suitable extinguishing media:
foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

5.2. Special hazards arising from the substance or mixture
Carbon dioxide, carbon monoxide, nitrogen oxides, fumes/smoke, carbon black, corrosive gases/vapours

5.3. Advice for fire-fighters
Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective clothing. Do not breathe vapour/aerosol/spray mists. Handle in accordance with good industrial hygiene and safety practice.

6.2. Environmental precautions
Contain contaminated water/firefighting water. Do not allow to enter soil, waterways or waste water channels.

6.3. Methods and material for containment and cleaning up
For small amounts: Pick up with inert absorbent material (e.g. sand, earth etc.). Dispose of contaminated material as prescribed.
For large amounts: Pump off product.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Avoid contact with the skin, eyes and clothing. Smoking, eating and drinking are forbidden in application area. For personal protection see section 8. Comply with the health and safety at work laws. Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:
No special precautions necessary.

7.2. Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE), aluminum
Further information on storage conditions: Store protected against freezing. Keep container tightly closed. Keep away from food, drink and animal feeding stuffs. Keep locked-up and out of reach of children. Keep only in the original container.

Frost sensitive

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

10043-35-3: boric acid

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection:
Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures
Do not inhale gases/vapours/aerosols. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid
Colour:	clear blue
Odour:	mild
Odour threshold:	No applicable information available.
pH value:	approx. 9.8 (water, 20 g/l, 25 °C)
Melting temperature:	approx. 0 °C
boiling temperature:	approx. 100 °C
Flash point:	A flash point determination is unnecessary due to the high water content.
Evaporation rate:	not determined
Flammability:	not flammable
Flammability of Aerosol Products:	not applicable, the product does not form flammable aerosoles
Lower explosion limit:	dropped
Ignition temperature:	not applicable
Vapour pressure:	not applicable
Density:	approx. 1.0 g/cm3 (20 °C) approx. 1.031 g/cm3 (15 °C)

approx. 1.015 g/cm3
(50 °C)

Relative vapour density (air):
not determined

Thermal decomposition: > 250 °C

Viscosity, dynamic: approx. 18 mPa.s
(20 °C)

Explosion hazard: not explosive

9.2. Other information

Miscibility with water:
miscible in all proportions

Other Information:
If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 10: Stability and Reactivity

10.1. Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.

10.4. Conditions to avoid
See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:
strong oxidizing agents, strong reducing agents

10.6. Hazardous decomposition products

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Experimental/calculated data:
LD50 (oral): > 2,000 mg/kg

Irritation

Assessment of irritating effects:
Irritating to eyes, respiratory system and skin.

Experimental/calculated data:
Skin corrosion/irritation: Irritant.

Serious eye damage/irritation: Irritant.

Respiratory/Skin sensitization

Assessment of sensitization:
A sensitizing effect on particularly sensitive individuals cannot be excluded.

Germ cell mutagenicity

Assessment of mutagenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Carcinogenicity

Assessment of carcinogenicity:
Not expected to be carcinogenic (based on composition).

Reproductive toxicity

Assessment of reproduction toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Developmental toxicity

Assessment of teratogenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Other relevant toxicity information

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity to fish:
LC50 (96 h) approx. 1 - 10 mg/l
Product not examined: Value is calculated from the data of the components.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Not readily biodegradable (by OECD criteria).

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Adsorption in soil: Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

12.5. Results of PBT and vPvB assessment

The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

12.6. Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

12.7. Additional information

Other ecotoxicological advice:
The product should not be allowed to reach either sewage waters or water purification plants. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

This material and its container must be disposed of in a safe way.
Must be disposed of or incinerated in accordance with local regulations.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).
This product and any uncleaned containers must be disposed of as hazardous waste in accordance with the 2005 Hazardous Waste Regulations and amendments (United Kingdom)

Contaminated packaging:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport Information

Land transport

ADR

UN number	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains COPPER CARBONATE)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	Tunnel code: E

RID

UN number	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains COPPER CARBONATE)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known

Inland waterway transport

ADN

UN number	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains COPPER CARBONATE)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known
Transport in inland	Not evaluated

waterway vessel:

Sea transport

IMDG

UN number:	UN 3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains COPPER CARBONATE)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes Marine pollutant: YES
Special precautions for user:	None known

Air transport

IATA/ICAO

UN number:	UN 3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains COPPER CARBONATE)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known

14.1. UN number
See corresponding entries for “UN number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)
See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

Further information

This product is subject to the most recent edition of "The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations" and their amendments (United Kingdom).

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).
This product is classified under the Chemicals (Hazard Information and Packaging) Regulations, (CHIP) (United Kingdom).

Biocidal Products Directive 98/8/EC

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.2. Chemical Safety Assessment

Chemical Safety Assessment not required

SECTION 16: Other Information

In addition to the information given in the safety data sheet we refer to the product specific 'Technical Information'.

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

Xn	Harmful.
N	Dangerous for the environment.
T	Toxic.

20/22	Harmful by inhalation and if swallowed.
50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
60	May impair fertility.
61	May cause harm to the unborn child.
22	Harmful if swallowed.
43	May cause sensitization by skin contact.
38	Irritating to skin.
41	Risk of serious damage to eyes.
50	Very toxic to aquatic organisms.
Acute Tox.	Acute toxicity
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Repr.	Reproductive toxicity
Skin Sens.	Skin sensitization
Skin Corr./Irrit.	Skin corrosion/irritation
Repr. Cat. 2	Reprotoxic substances (fertility or development) Category 2: Substances which should be regarded as if they cause developmental toxicity to in humans or substances which should be regarded as if they impair fertility in humans.
H332	Harmful if inhaled.
H302	Harmful if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H360FD	May damage fertility. May damage the unborn child.
H317	May cause an allergic skin reaction.
H314	Causes severe skin burns and eye damage.

If you have any queries relating to this MSDS, it's contents or any other product safety related questions, please write to the following e-mail address: product-safety-north@basf.com

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Safety data sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Wolmanit CX-8F

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: wood preservative
Recommended use: wood preservative, for industrial and professional users

1.3. Details of the supplier of the safety data sheet

Company:
BASF Wolman GmbH
Dr.-Wolman-Str. 31-33
76547 Sinzheim, Germany

Contact address:
BASF plc
PO Box 4, Earl Road, Cheadle Hulme,
Cheadle, Cheshire
SK8 6QG, UNITED KINGDOM

Telephone: +44 161 485-6222
E-mail address: product-safety-north@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:
Causes burns.

Harmful if swallowed.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

According to Directive 67/548/EEC or 1999/45/EC

Directive 1999/45/EC ('Preparation Directive')

Hazard symbol(s)

C	Corrosive.	
N	Dangerous for the environment.	

R-phrase(s)

R34	Causes burns.
R22	Harmful if swallowed.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S2	Keep out of the reach of children.
S13	Keep away from food, drink and animal feeding stuffs.
S20/21	When using do not eat, drink or smoke.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Hazard determining component(s) for labelling: copper(II) carbonate--copper(II) hydroxide(1:1), complexing agent based on ethanolamine and carboxylic acids (confidential), Bis-(N-cyclohexyldiazeniumdioxy)-copper

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Liquid wood preservative, based on: Copper compound

dissolved in: complexing agent based on ethanolamine and carboxylic acids (confidential)

Hazardous ingredients (GHS)
according to Regulation (EC) No. 1272/2008

copper(II) carbonate--copper(II) hydroxide(1:1)

Content (W/W): 13.04 %	Acute Tox. 4 (Inhalation - dust)
CAS Number: 12069-69-1	Acute Tox. 4 (oral)
EC-Number: 235-113-6	Aquatic Acute 1
REACH registration number: 01-2119429040-56	Aquatic Chronic 1
	H332, H302, H400, H410

Bis-(N-cyclohexyldiazeniumdioxy)-copper

Content (W/W): 2.8 %	Acute Tox. 4 (oral)
CAS Number: 312600-89-8	Eye Dam./Irrit. 1
	Aquatic Acute 1
	Aquatic Chronic 1
	H318, H302, H400, H410

complexing agent based on ethanolamine and carboxylic acids (confidential)

Content (W/W): >= 20 % - <= 50 %	Acute Tox. 4 (oral)
	Skin Corr./Irrit. 1B
	H314, H302

Hazardous ingredients
according to Directive 1999/45/EC

copper(II) carbonate--copper(II) hydroxide(1:1)
Content (W/W): 13.04 %
CAS Number: 12069-69-1
EC-Number: 235-113-6
REACH registration number: 01-2119429040-56
Hazard symbol(s): Xn, N
R-phrase(s): 20/22, 50/53

Bis-(N-cyclohexyldiazeniumdioxy)-copper
Content (W/W): 2.8 %
CAS Number: 312600-89-8
Hazard symbol(s): Xn, N
R-phrase(s): 22, 41, 50/53

complexing agent based on ethanolamine and carboxylic acids (confidential)
Content (W/W): >= 20 % - <= 50 %
Hazard symbol(s): C
R-phrase(s): 34, 22

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

First aid personnel should pay attention to their own safety. Immediately remove contaminated clothing.

If inhaled:
If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:
After contact with skin, wash immediately with plenty of water and soap. Under no circumstances should organic solvent be used. If irritation develops, seek medical attention.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: skin corrosion, Eye irritation

4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

5.2. Special hazards arising from the substance or mixture

Carbon dioxide, carbon monoxide, nitrogen oxides, fumes/smoke, carbon black, corrosive gases/vapours

5.3. Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Do not breathe vapour/aerosol/spray mists. Handle in accordance with good industrial hygiene and safety practice.

6.2. Environmental precautions

Contain contaminated water/firefighting water. Do not allow to enter soil, waterways or waste water channels.

6.3. Methods and material for containment and cleaning up

For small amounts: Pick up with inert absorbent material (e.g. sand, earth etc.). Dispose of contaminated material as prescribed.
For large amounts: Pump off product.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Avoid contact with the skin, eyes and clothing. Smoking, eating and drinking are forbidden in application area. For personal protection see section 8. Comply with the health and safety at work laws. Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:
No special precautions necessary.

7.2. Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE)
Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect from direct sunlight. Store protected against freezing.

Frost sensitive

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

141-43-5: 2-aminoethanol; ethanolamine

TWA value 2.5 mg/m3 ; 1 ppm (WEL/EH 40 (UK))
STEL value 7.6 mg/m3 ; 3 ppm (WEL/EH 40 (UK))
TWA value 2.5 mg/m3 ; 1 ppm (OEL (EU))
indicative
STEL value 7.6 mg/m3 ; 3 ppm (OEL (EU))
indicative
Skin Designation (OEL (EU))
The substance can be absorbed through the skin.
Skin Designation (WEL/EH 40 (UK))
The substance can be absorbed through the skin.

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection:
Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures
Do not inhale gases/vapours/aerosols. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid
Colour:	blue
Odour:	faint specific odour
pH value:	approx. 9.8 (20 g/l, 25 °C)
Melting point:	approx. 0 °C
boiling temperature:	> 100 °C
Flash point:	Non-flammable.
Flammability:	not highly flammable
Vapour pressure:	not applicable
Density:	approx. 1.2 g/cm3 (20 °C)
Self ignition:	Temperature: > 400 °C
Thermal decomposition:	> 250 °C
Viscosity, dynamic:	approx. 30 mPa.s (20 °C)
Explosion hazard:	not explosive

9.2. Other information

Miscibility with water:
miscible in all proportions
Other Information:
If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 10: Stability and Reactivity

10.1. Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.

10.4. Conditions to avoid
See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:
strong oxidizing agents, strong reducing agents

10.6. Hazardous decomposition products

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Experimental/calculated data:
LD50 rat (oral): approx. 500 mg/kg (OECD Guideline 401)

LD50 rat (dermal): > 2,000 mg/kg (OECD Guideline 402)

Irritation

Experimental/calculated data:
Skin corrosion/irritation rabbit: Corrosive. (OECD Guideline 404)

Serious eye damage/irritation rabbit: Risk of serious damage to eyes. (OECD Guideline 405)

Respiratory/Skin sensitization

Experimental/calculated data:
Buehler test guinea pig: Non-sensitizing. (OECD Guideline 406)

Germ cell mutagenicity

Assessment of mutagenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Carcinogenicity

Assessment of carcinogenicity:
Not expected to be carcinogenic (based on composition).

Reproductive toxicity

Assessment of reproduction toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Developmental toxicity

Assessment of teratogenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Other relevant toxicity information

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity to fish:
LC50 (96 h) <= 1 mg/l, Brachydanio rerio (OECD Guideline 203, static)

Aquatic invertebrates:
LC50 (48 h) < 1 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Aquatic plants:
EC50 (72 h) < 1 mg/l, Selenastrum capricornutum (OECD Guideline 201)

Microorganisms/Effect on activated sludge:
EC50 (3 h) approx. 50 mg/l (OECD Guideline 209)

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
The ingredients based on copper can be virtually eliminated from water by abiotic processes e.g. adsorption onto activated sludge.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

12.5. Results of PBT and vPvB assessment

The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

12.6. Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

12.7. Additional information

Other ecotoxicological advice:
The product should not be allowed to reach either sewage waters or water purification plants. The product has not been tested. The statements on ecotoxicology have been derived from products of a similar structure and composition.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

This material and its container must be disposed of in a safe way.
Must be disposed of or incinerated in accordance with local regulations.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).
This product and any uncleaned containers must be disposed of as hazardous waste in accordance with the 2005 Hazardous Waste Regulations and amendments (United Kingdom)

Contaminated packaging:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport Information

Land transport

ADR

UN number	UN1760
UN proper shipping name:	CORROSIVE LIQUID, N.O.S. (contains ALKYLAMINE, COPPER CARBONATE)
Transport hazard class(es):	8, EHSM
Packing group:	II
Environmental hazards:	yes
Special precautions for user:	Tunnel code: E

RID

UN number	UN1760
UN proper shipping name:	CORROSIVE LIQUID, N.O.S. (contains ALKYLAMINE, COPPER CARBONATE)
Transport hazard class(es):	8, EHSM
Packing group:	II
Environmental hazards:	yes
Special precautions for user:	None known

Inland waterway transport

ADN

UN number	UN1760
UN proper shipping name:	CORROSIVE LIQUID, N.O.S. (contains ALKYLAMINE, COPPER CARBONATE)
Transport hazard class(es):	8, EHSM
Packing group:	II
Environmental hazards:	yes
Special precautions for user:	None known
Transport in inland waterway vessel:	Not evaluated

Sea transport

IMDG

UN number:	UN 1760
UN proper shipping name:	CORROSIVE LIQUID, N.O.S. (contains ALKYLAMINE, COPPER CARBONATE)
Transport hazard class(es):	8, EHSM
Packing group:	II
Environmental hazards:	yes Marine pollutant: NO
Special precautions for user:	None known

Air transport

IATA/ICAO

UN number:	UN 1760
UN proper shipping name:	CORROSIVE LIQUID, N.O.S. (contains ALKYLAMINE, COPPER CARBONATE)
Transport hazard class(es):	8
Packing group:	II
Environmental hazards:	No Mark as dangerous for the environment is needed

Special precautions for user:	None known

14.1. UN number
See corresponding entries for “UN number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)
See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user
See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

Further information
This product is subject to the most recent edition of "The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations" and their amendments (United Kingdom).

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

Biocidal Products Directive 98/8/EC

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).
This product is classified under the Chemicals (Hazard Information and Packaging) Regulations, (CHIP) (United Kingdom).
This product may be subject to the Control of Major Accident Hazards Regulations (COMAH), and amendments if specific threshold tonnages are exceeded (United Kingdom).

15.2. Chemical Safety Assessment

Chemical Safety Assessment not required

SECTION 16: Other Information

In addition to the information given in the safety data sheet we refer to the product specific 'Technical Information'.

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

Xn	Harmful.
N	Dangerous for the environment.
C	Corrosive.
20/22	Harmful by inhalation and if swallowed.
50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
22	Harmful if swallowed.
41	Risk of serious damage to eyes.
34	Causes burns.
Acute Tox.	Acute toxicity
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Corr./Irrit.	Skin corrosion/irritation
H332	Harmful if inhaled.
H302	Harmful if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H318	Causes serious eye damage.
H314	Causes severe skin burns and eye damage.

If you have any queries relating to this MSDS, it's contents or any other product safety related questions, please write to the following e-mail address: product-safety-north@basf.com

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.

Safety data sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Wolmanit CX-10

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: biocide
Recommended use: wood preservative, for industrial and professional users

1.3. Details of the supplier of the safety data sheet

Company:
BASF Wolman GmbH
Dr.-Wolman-Str. 31-33
76547 Sinzheim, Germany

Contact address:
BASF plc
PO Box 4, Earl Road, Cheadle Hulme,
Cheadle, Cheshire
SK8 6QG, UNITED KINGDOM

Telephone: +44 161 485-6222
E-mail address: product-safety-north@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:
Causes burns.

Harmful if swallowed.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

According to Directive 67/548/EEC or 1999/45/EC

Directive 1999/45/EC ('Preparation Directive')

Hazard symbol(s)

C	Corrosive.	
N	Dangerous for the environment.	

R-phrase(s)

R34	Causes burns.
R22	Harmful if swallowed.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S2	Keep out of the reach of children.
S13	Keep away from food, drink and animal feeding stuffs.
S20/21	When using do not eat, drink or smoke.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Hazard determining component(s) for labelling: complexing agent based on ethanolamine and carboxylic acids (confidential), copper(II) carbonate--copper(II) hydroxide(1:1), Bis-(N-cyclohexyldiazeniumdioxy)-copper

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Liquid wood preservative, based on: Copper compound, Boron compound

dissolved in: complexing agent based on ethanolamine and carboxylic acids (confidential)

Hazardous ingredients (GHS)
according to Regulation (EC) No. 1272/2008

copper(II) carbonate--copper(II) hydroxide(1:1)

Content (W/W): 16.3 %	Acute Tox. 4 (Inhalation - dust)
CAS Number: 12069-69-1	Acute Tox. 4 (oral)
EC-Number: 235-113-6	Aquatic Acute 1
REACH registration number: 01-2119429040-56	Aquatic Chronic 1
	H332, H302, H400, H410

boric acid

Content (W/W): 5 %	Repr. 1B (fertility)
CAS Number: 10043-35-3	Repr. 1B (unborn child)
EC-Number: 233-139-2	
REACH registration number: 01-2119486683-25	
INDEX-Number: 005-007-00-2	

Bis-(N-cyclohexyldiazeniumdioxy)-copper

Content (W/W): 3.5 %	Acute Tox. 4 (oral)
CAS Number: 312600-89-8	Eye Dam./Irrit. 1
	Aquatic Acute 1
	Aquatic Chronic 1
	H318, H302, H400, H410

complexing agent based on ethanolamine and carboxylic acids (confidential)

Content (W/W): >= 20 % - <= 50 %	Acute Tox. 4 (oral)
	Skin Corr./Irrit. 1B
	H314, H302

Hazardous ingredients
according to Directive 1999/45/EC

copper(II) carbonate--copper(II) hydroxide(1:1)
Content (W/W): 16.3 %
CAS Number: 12069-69-1
EC-Number: 235-113-6
REACH registration number: 01-2119429040-56
Hazard symbol(s): Xn, N

R-phrase(s): 20/22, 50/53

boric acid
Content (W/W): 5 %
CAS Number: 10043-35-3
EC-Number: 233-139-2
REACH registration number: 01-2119486683-25
INDEX-Number: 005-007-00-2
Hazard symbol(s): T
R-phrase(s): 60, 61
Repr. Cat. 2

Bis-(N-cyclohexyldiazeniumdioxy)-copper
Content (W/W): 3.5 %
CAS Number: 312600-89-8
Hazard symbol(s): Xn, N
R-phrase(s): 22, 41, 50/53

complexing agent based on ethanolamine and carboxylic acids (confidential)
Content (W/W): >= 20 % - <= 50 %
Hazard symbol(s): C
R-phrase(s): 34, 22

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

First aid personnel should pay attention to their own safety. Immediately remove contaminated clothing.

If inhaled:
If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:
After contact with skin, wash immediately with plenty of water and soap. Under no circumstances should organic solvent be used. If irritation develops, seek medical attention.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: skin corrosion, Eye irritation

4.3. Indication of any immediate medical attention and special treatment needed
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media
Suitable extinguishing media:
foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

5.2. Special hazards arising from the substance or mixture
Carbon dioxide, carbon monoxide, nitrogen oxides, fumes/smoke, carbon black, corrosive gases/vapours

5.3. Advice for fire-fighters
Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective clothing. Do not breathe vapour/aerosol/spray mists. Handle in accordance with good industrial hygiene and safety practice.

6.2. Environmental precautions
Contain contaminated water/firefighting water. Do not allow to enter soil, waterways or waste water channels.

6.3. Methods and material for containment and cleaning up
For small amounts: Pick up with inert absorbent material (e.g. sand, earth etc.). Dispose of contaminated material as prescribed.
For large amounts: Pump off product.

6.4. Reference to other sections
Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Avoid contact with the skin, eyes and clothing. Smoking, eating and drinking are forbidden in application area. For personal protection see section 8. Comply with the health and safety at work laws. Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:
No special precautions necessary.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect from direct sunlight. Store protected against freezing.

Frost sensitive

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

141-43-5: 2-aminoethanol; ethanolamine
TWA value 2.5 mg/m3 ; 1 ppm (WEL/EH 40 (UK))
STEL value 7.6 mg/m3 ; 3 ppm (WEL/EH 40 (UK))
TWA value 2.5 mg/m3 ; 1 ppm (OEL (EU))
indicative
STEL value 7.6 mg/m3 ; 3 ppm (OEL (EU))
indicative
Skin Designation (OEL (EU))
The substance can be absorbed through the skin.
Skin Designation (WEL/EH 40 (UK))
The substance can be absorbed through the skin.

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures
Do not inhale gases/vapours/aerosols. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid
Colour:	blue
Odour:	faint specific odour
pH value:	approx. 9.6 (approx. 20 g/l, 20 °C)
Melting point:	approx. 0 °C
boiling temperature:	> 100 °C
Flash point:	Non-flammable.
Flammability:	not flammable
Ignition temperature:	approx. 420 °C
Vapour pressure:	not applicable
Density:	approx. 1.27 g/cm3 (20 °C)
Thermal decomposition:	> 250 °C
Viscosity, dynamic:	not determined
Explosion hazard:	not explosive

9.2. Other information

Miscibility with water:	miscible in all proportions	
Flow time:	approx. 38 s (22 °C)	(DIN EN ISO 2431; 4 mm)

Other Information:
If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 10: Stability and Reactivity

10.1. Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.

10.4. Conditions to avoid
See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:
strong oxidizing agents, strong reducing agents

10.6. Hazardous decomposition products

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Experimental/calculated data:
LD50 rat (oral): approx. 500 mg/kg (OECD Guideline 401)

LD50 rat (dermal): > 2,000 mg/kg (OECD Guideline 402)

Irritation

Experimental/calculated data:
Skin corrosion/irritation rabbit: Corrosive. (OECD Guideline 404)

Serious eye damage/irritation rabbit: Risk of serious damage to eyes. (OECD Guideline 405)

Respiratory/Skin sensitization

Experimental/calculated data:
Buehler test guinea pig: Non-sensitizing. (OECD Guideline 406)

Germ cell mutagenicity

Assessment of mutagenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Carcinogenicity

Assessment of carcinogenicity:
Not expected to be carcinogenic (based on composition).

Reproductive toxicity

Assessment of reproduction toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Developmental toxicity

Assessment of teratogenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Other relevant toxicity information

Manufacturer of boric acid / borates point out that animal ingestion studies in several species, at high doses, indicate that boric acid / borates cause reproductive and developmental effects. A human study of occupational exposure to boric acid / borate dust showed no adverse effect on reproduction. Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity to fish:
LC50 (96 h) < 1 mg/l, Brachydanio rerio (OECD Guideline 203, static)

Aquatic invertebrates:
LC50 (48 h) < 1 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Aquatic plants:

EC50 (72 h) < 1 mg/l, Selenastrum capricornutum (OECD Guideline 201)

Microorganisms/Effect on activated sludge:
EC50 (3 h) approx. 50 mg/l (OECD Guideline 209)

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
The ingredients based on copper can be virtually eliminated from water by abiotic processes e.g. adsorption onto activated sludge.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

12.5. Results of PBT and vPvB assessment

The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

12.6. Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

12.7. Additional information

Other ecotoxicological advice:
The product should not be allowed to reach either sewage waters or water purification plants. The product has not been tested. The statements on ecotoxicology have been derived from products of a similar structure and composition.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

This material and its container must be disposed of in a safe way.
Must be disposed of or incinerated in accordance with local regulations.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).
This product and any uncleaned containers must be disposed of as hazardous waste in accordance with the 2005 Hazardous Waste Regulations and amendments (United Kingdom)

Contaminated packaging:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport Information

Land transport

ADR

UN number	UN1760
UN proper shipping name:	CORROSIVE LIQUID, N.O.S. (contains ALKYLAMINE, COPPER CARBONATE)
Transport hazard class(es):	8, EHSM
Packing group:	II
Environmental hazards:	yes
Special precautions for user:	Tunnel code: E

RID

UN number	UN1760
UN proper shipping name:	CORROSIVE LIQUID, N.O.S. (contains ALKYLAMINE, COPPER CARBONATE)
Transport hazard class(es):	8, EHSM
Packing group:	II
Environmental hazards:	yes
Special precautions for user:	None known

Inland waterway transport

ADN

UN number	UN1760
UN proper shipping name:	CORROSIVE LIQUID, N.O.S. (contains ALKYLAMINE, COPPER CARBONATE)
Transport hazard class(es):	8, EHSM
Packing group:	II
Environmental hazards:	yes
Special precautions for user:	None known
Transport in inland waterway vessel:	Not evaluated

Sea transport

IMDG

UN number:	UN 1760
UN proper shipping name:	CORROSIVE LIQUID, N.O.S. (contains ALKYLAMINE, COPPER CARBONATE)
Transport hazard class(es):	8, EHSM
Packing group:	II
Environmental hazards:	yes Marine pollutant: YES
Special precautions for user:	None known

Air transport

IATA/ICAO

UN number:	UN 1760
UN proper shipping name:	CORROSIVE LIQUID, N.O.S. (contains ALKYLAMINE, COPPER CARBONATE)
Transport hazard class(es):	8
Packing group:	II
Environmental hazards:	No Mark as dangerous for the environment is needed
Special precautions for user:	None known

14.1. UN number
See corresponding entries for “UN number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)
See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user
See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

Further information
This product is subject to the most recent edition of "The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations" and their amendments (United Kingdom).

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).
This product is classified under the Chemicals (Hazard Information and Packaging) Regulations, (CHIP) (United Kingdom).
This product may be subject to the Control of Major Accident Hazards Regulations (COMAH), and amendments if specific threshold tonnages are exceeded (United Kingdom).

Biocidal Products Directive 98/8/EC

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.2. Chemical Safety Assessment

Chemical Safety Assessment not required

SECTION 16: Other Information

In addition to the information given in the safety data sheet we refer to the product specific 'Technical Information'.

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

Xn	Harmful.
N	Dangerous for the environment.
T	Toxic.
C	Corrosive.
20/22	Harmful by inhalation and if swallowed.
50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
60	May impair fertility.
61	May cause harm to the unborn child.

22	Harmful if swallowed.
41	Risk of serious damage to eyes.
34	Causes burns.
Acute Tox.	Acute toxicity
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Repr.	Reproductive toxicity
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Corr./Irrit.	Skin corrosion/irritation
Repr. Cat. 2	Reprotoxic substances (fertility or development) Category 2: Substances which should be regarded as if they cause developmental toxicity to in humans or substances which should be regarded as if they impair fertility in humans.
H332	Harmful if inhaled.
H302	Harmful if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H318	Causes serious eye damage.
H314	Causes severe skin burns and eye damage.

If you have any queries relating to this MSDS, it's contents or any other product safety related questions, please write to the following e-mail address: product-safety-north@basf.com

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

We create chemistry

Safety data sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Wolmanit ProAdd DF

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use: Additive for wood preservatives

1.3. Details of the supplier of the safety data sheet

Company:
BASF Wolman GmbH
Dr.-Wolman-Str. 31-33
76547 Sinzheim, Germany

Contact address:
BASF plc
PO Box 4, Earl Road, Cheadle Hulme,
Cheadle, Cheshire
SK8 6QG, UNITED KINGDOM

Telephone: +44 161 485-6222
E-mail address: product-safety-north@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:
No particular hazards known.

2.2. Label elements

According to Directive 67/548/EEC or 1999/45/EC

Directive 1999/45/EC ('Preparation Directive')

The product does not require a hazard warning label in accordance with EC Directives.

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Blend based on: polysiloxane
emulsifier, formulation auxiliary, in water

Hazardous ingredients (GHS)
according to Regulation (EC) No. 1272/2008

FATTY ALCOHOL ETHOXYLATE
Content (W/W): >= 1 % - <= 5 % Eye Dam./Irrit. 1
CAS Number: 78330-20-8 H318

Hazardous ingredients
according to Directive 1999/45/EC

FATTY ALCOHOL ETHOXYLATE
Content (W/W): >= 1 % - <= 5 %
CAS Number: 78330-20-8
Hazard symbol(s): Xi
R-phrase(s): 41

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

First aid personnel should pay attention to their own safety. Immediately remove contaminated clothing.

If inhaled:
If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:
After contact with skin, wash immediately with plenty of water and soap. Under no circumstances should organic solvent be used. If irritation develops, seek medical attention.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: No significant reaction of the human body to the product known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

5.2. Special hazards arising from the substance or mixture

Carbon dioxide, carbon monoxide, nitrogen oxides, fumes/smoke, carbon black, corrosive gases/vapours

5.3. Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective clothing. Do not breathe vapour/aerosol/spray mists. Handle in accordance with good industrial hygiene and safety practice.

6.2. Environmental precautions
Contain contaminated water/firefighting water. Do not allow to enter soil, waterways or waste water channels.

6.3. Methods and material for containment and cleaning up
For small amounts: Pick up with inert absorbent material (e.g. sand, earth etc.). Dispose of contaminated material as prescribed.
For large amounts: Pump off product.

6.4. Reference to other sections
Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling
Avoid contact with the skin, eyes and clothing. Smoking, eating and drinking are forbidden in application area. For personal protection see section 8. Comply with the health and safety at work laws. Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:
No special precautions necessary.

7.2. Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE)
Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect from direct sunlight. Store protected against freezing.

Protect from temperatures below: 5 °C
Characteristics of the product are irreversibly changed below the limit temperature.

7.3. Specific end use(s)
For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

The substances without values are not listed in the occupational exposure regulations for the validity area of this safety data sheet.

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection:
Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc. Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures
Do not inhale gases/vapours/aerosols. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid
Colour:	white
Odour:	characteristic
Odour threshold:	
	No applicable information available.
pH value:	approx. 7
	(20 °C)

Melting temperature:	Unspecified
boiling temperature:	Unspecified
Flash point:	not applicable
Evaporation rate:	not determined
Flammability:	not applicable
Flammability of Aerosol Products:	not applicable, the product does not form flammable aerosoles
Lower explosion limit:	dropped
Vapour pressure:	not applicable
Density:	approx. 1 g/cm3 (approx. 20 °C)
Relative vapour density (air):	not determined
Solubility in water:	soluble (20 °C)
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Viscosity, kinematic:	approx. 80 mm2/s
Explosion hazard:	not explosive

9.2. Other information

Miscibility with water:
(20 °C)
soluble
Other Information:
If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 10: Stability and Reactivity

10.1. Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.

10.4. Conditions to avoid
See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:
strong oxidizing agents, strong reducing agents

10.6. Hazardous decomposition products

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Irritation

Assessment of irritating effects:
May cause slight irritation to the eyes. May cause slight irritation to the skin.

Respiratory/Skin sensitization

Assessment of sensitization:
There is no evidence of a skin-sensitizing potential.

Germ cell mutagenicity

Assessment of mutagenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Carcinogenicity

Assessment of carcinogenicity:
Not expected to be carcinogenic (based on composition).

Reproductive toxicity

Assessment of reproduction toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Developmental toxicity

Assessment of teratogenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Other relevant toxicity information

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The product has not been tested. The statements on toxicology have been derived from products of a similar structure and composition.

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity to fish:
LC50 (96 h) > 100 mg/l, Fish (static)

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Not readily biodegradable (by OECD criteria).

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Adsorption in soil: Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

12.5. Results of PBT and vPvB assessment

The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

12.6. Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

12.7. Additional information

Other ecotoxicological advice:
The product should not be allowed to reach either sewage waters or water purification plants. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

This material and its container must be disposed of in a safe way.
Must be disposed of or incinerated in accordance with local regulations.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).

Contaminated packaging:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport
ADN

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable

Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known
Transport in inland waterway vessel:	Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

14.1. UN number
See corresponding entries for “UN number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)
See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user
See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).

15.2. Chemical Safety Assessment

Chemical Safety Assessment not required

SECTION 16: Other Information

This product is of industrial quality and unless otherwise specified or agreed intended exclusively for industrial use. This includes the mentioned and recommended usage. Any other intended applications should be discussed with the manufacturer. In particular this concerns the application for products that are the object of special standards and regulations.

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

Xi	Irritant.
41	Risk of serious damage to eyes.
Eye Dam./Irrit.	Serious eye damage/eye irritation
H318	Causes serious eye damage.

If you have any queries relating to this MSDS, it's contents or any other product safety related questions, please write to the following e-mail address: product-safety-north@basf.com

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.

Safety data sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Wolmanit ProColor brown 2005

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Colour concentrate for the professional use in wood protection
Recommended use: Colour concentrate for the professional use in wood protection

1.3. Details of the supplier of the safety data sheet

Company:
BASF Wolman GmbH
Dr.-Wolman-Str. 31-33
76547 Sinzheim, Germany

Contact address:
BASF plc
PO Box 4, Earl Road, Cheadle Hulme,
Cheadle, Cheshire
SK8 6QG, UNITED KINGDOM

Telephone: +44 161 485-6222
E-mail address: product-safety-north@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:
Irritating to eyes and skin.

May cause sensitization by skin contact.

2.2. Label elements

According to Directive 67/548/EEC or 1999/45/EC

Directive 1999/45/EC ('Preparation Directive')

Hazard symbol(s)

Xi Irritant.

R-phrase(s)

R36/38	Irritating to eyes and skin.
R43	May cause sensitization by skin contact.

S-phrase(s)

S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39	Wear suitable gloves and eye/face protection.
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.

The product is classified and labelled in accordance with EC Directives.

Hazard determining component(s) for labelling: azoic dye

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

liquid concentration for the colouration of wood - miscible with water

Hazardous ingredients (GHS)
according to Regulation (EC) No. 1272/2008

azoic dye

Content (W/W): >= 30 % - <= 50 %	Skin Sens. 1 H317

Acetic acid

Content (W/W): <= 0.2 %	Flam. Liq. 3
CAS Number: 64-19-7	Skin Corr./Irrit. 1B
EC-Number: 200-580-7	H314, H226
INDEX-Number: 607-002-00-6	

Hazardous ingredients
according to Directive 1999/45/EC

azoic dye

Content (W/W): >= 30 % - <= 50 %
Hazard symbol(s): Xi
R-phrase(s): 43

Acetic acid

Content (W/W): <= 0.2 %
CAS Number: 64-19-7
EC-Number: 200-580-7
INDEX-Number: 607-002-00-6
Hazard symbol(s): C
R-phrase(s): 10, 34

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

First aid personnel should pay attention to their own safety. Immediately remove contaminated clothing.

If inhaled:
If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:
After contact with skin, wash immediately with plenty of water and soap. Under no circumstances should organic solvent be used. If irritation develops, seek medical attention.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms: Eye irritation, skin irritation

4.3. Indication of any immediate medical attention and special treatment needed
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media
Suitable extinguishing media:
foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

5.2. Special hazards arising from the substance or mixture
Carbon dioxide, carbon monoxide, nitrogen oxides, fumes/smoke, carbon black, corrosive gases/vapours

5.3. Advice for fire-fighters
Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective clothing. Do not breathe vapour/aerosol/spray mists. Handle in accordance with good industrial hygiene and safety practice.

6.2. Environmental precautions
Contain contaminated water/firefighting water. Do not allow to enter soil, waterways or waste water channels.

6.3. Methods and material for containment and cleaning up

For small amounts: Pick up with inert absorbent material (e.g. sand, earth etc.). Dispose of contaminated material as prescribed.
For large amounts: Pump off product.

6.4. Reference to other sections
Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling
Avoid contact with the skin, eyes and clothing. Smoking, eating and drinking are forbidden in application area. For personal protection see section 8. Comply with the health and safety at work laws. Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:
No special precautions necessary.

7.2. Conditions for safe storage, including any incompatibilities
Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect from direct sunlight. Store protected against freezing.

Frost sensitive

7.3. Specific end use(s)
For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

64-19-7: acetic acid...%
TWA value 25 mg/m3 ; 10 ppm (OEL (EU))
indicative

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures
Do not inhale gases/vapours/aerosols. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid
Colour:	dark brown
Odour:	product specific
pH value:	approx. 3 - 5 (20 °C)
Melting temperature:	not applicable
boiling temperature:	approx. 100 - 105 °C
Flash point:	> 100 °C
Evaporation rate:	not determined
Flammability:	not flammable
Flammability of Aerosol Products:	not applicable, the product does not form flammable aerosoles
Lower explosion limit:	dropped
Ignition temperature:	not applicable
Vapour pressure:	not applicable
Density:	approx. 1.1 g/cm3 (20 °C)
Relative vapour density (air):	not determined
Solubility in water:	miscible
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.

Viscosity, dynamic:
not determined
Explosion hazard: not explosive

9.2. Other information

Miscibility with water:
miscible
Other Information:
If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 10: Stability and Reactivity

10.1. Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.

10.4. Conditions to avoid
See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:
strong oxidizing agents, strong reducing agents

10.6. Hazardous decomposition products

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Experimental/calculated data:
LD50 rat (oral): > 5,000 mg/kg

Irritation

Experimental/calculated data:
Skin corrosion/irritation rabbit: Irritant.

Serious eye damage/irritation rabbit: Irritant.

Respiratory/Skin sensitization

Assessment of sensitization:
May cause sensitization by skin contact.

Germ cell mutagenicity

Assessment of mutagenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Carcinogenicity

Assessment of carcinogenicity:
Not expected to be carcinogenic (based on composition).

Reproductive toxicity

Assessment of reproduction toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Developmental toxicity

Assessment of teratogenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Other relevant toxicity information

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The product has not been tested. The statements on toxicology have been derived from products of a similar structure and composition.

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity to fish:
LC50 (96 h) > 100 mg/l

Microorganisms/Effect on activated sludge:

EC50 > 100 mg/l

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Not readily biodegradable (by OECD criteria).

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

12.5. Results of PBT and vPvB assessment

The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

12.6. Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

12.7. Additional information

Other ecotoxicological advice:
The product should not be allowed to reach either sewage waters or water purification plants. The product has not been tested. The statement has been derived from the properties of the individual components.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

This material and its container must be disposed of in a safe way.
Must be disposed of or incinerated in accordance with local regulations.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).
This product and any uncleaned containers must be disposed of as hazardous waste in accordance with the 2005 Hazardous Waste Regulations and amendments (United Kingdom)

Contaminated packaging:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known
Transport in inland waterway vessel:	Not evaluated

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

14.1. UN number
See corresponding entries for “UN number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)
See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user
See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated

Ship Type: Not evaluated

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).
This product is classified under the Chemicals (Hazard Information and Packaging) Regulations, (CHIP) (United Kingdom).

15.2. Chemical Safety Assessment

Chemical Safety Assessment not required

SECTION 16: Other Information

In addition to the information given in the safety data sheet we refer to the product specific 'Technical Information'.

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

Xi	Irritant.
C	Corrosive.
43	May cause sensitization by skin contact.
10	Flammable.
34	Causes burns.
Skin Sens.	Skin sensitization
Flam. Liq.	Flammable liquid
Skin Corr./Irrit.	Skin corrosion/irritation
H317	May cause an allergic skin reaction.
H314	Causes severe skin burns and eye damage.
H226	Flammable liquid and vapour.

If you have any queries relating to this MSDS, it's contents or any other product safety related questions, please write to the following e-mail address: product-safety-north@basf.com

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

We create chemistry

Safety data sheet

BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.
Date / Revised: 25.03.2015 Version: 1.0
Product: **Wolmanit ProColor brown 2007**

(ID no. 30632644/SDS_GEN_GB/EN)
Date of print 30.03.2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Wolmanit ProColor brown 2007

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Product for construction chemicals
Recommended use: Colour concentrate for the professional use in wood protection

1.3. Details of the supplier of the safety data sheet

Company:
BASF Wolman GmbH
Dr.-Wolman-Str. 31-33
76547 Sinzheim, Germany

Contact address:
BASF plc
PO Box 4, Earl Road, Cheadle Hulme,
Cheadle, Cheshire
SK8 6QG, UNITED KINGDOM

Telephone: +44 161 485-6222
E-mail address: product-safety-north@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

Eye Dam./Irrit. 1

Skin Sens. 1

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:
May cause sensitization by skin contact.

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

Pictogram:

Signal Word:
Danger

Hazard Statement:

H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye/face protection.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P362 + P364	Take off contaminated clothing and wash before reuse.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.

According to Regulation (EC) No 1272/2008 [CLP]

Hazard determining component(s) for labelling: Alcohol ethoxylate, azoic dye

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Liquid concentrate for the colouration of wood - miscible with water

Hazardous ingredients (GHS)
according to Regulation (EC) No. 1272/2008

azoic dye

Content (W/W): >= 5 % - < 10 %	Skin Sens. 1 H317

Alcohol ethoxylate

Content (W/W): >= 2 % - < 5 %	Skin Corr./Irrit. 2
CAS Number: 69011-36-5	Eye Dam./Irrit. 1
	Aquatic Chronic 3
	H318, H315, H412

acetic acid...%

Content (W/W): >= 1 % - < 2 %	Flam. Liq. 3
CAS Number: 64-19-7	Skin Corr./Irrit. 1A
EC-Number: 200-580-7	Eye Dam./Irrit. 1
REACH registration number: 01-2119475328-30	H226, H314
INDEX-Number: 607-002-00-6	Specific concentration limit: Skin Corr./Irrit. 2: 10 - < 25 % Eye Dam./Irrit. 2: 10 - < 25 % Skin Corr./Irrit. 1B: 25 - < 90 % Skin Corr./Irrit. 1A: >= 90 %

Hazardous ingredients
according to Directive 1999/45/EC

azoic dye

Content (W/W): >= 5 % - < 10 %
Hazard symbol(s): Xi
R-phrase(s): 43

Alcohol ethoxylate

Content (W/W): >= 2 % - < 5 %
CAS Number: 69011-36-5
Hazard symbol(s): Xi
R-phrase(s): 38, 41

acetic acid...%

Content (W/W): >= 1 % - < 2 %
CAS Number: 64-19-7
EC-Number: 200-580-7
REACH registration number: 01-2119475328-30
INDEX-Number: 607-002-00-6
Hazard symbol(s): C
R-phrase(s): 10, 35

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

First aid personnel should pay attention to their own safety. Immediately remove contaminated clothing.

If inhaled:
If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:
After contact with skin, wash immediately with plenty of water and soap. Under no circumstances should organic solvent be used. If irritation develops, seek medical attention.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Hazards: No hazard is expected under intended use and appropriate handling.

4.3. Indication of any immediate medical attention and special treatment needed
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media
Suitable extinguishing media:
foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

5.2. Special hazards arising from the substance or mixture
Carbon dioxide, carbon monoxide, nitrogen oxides, fumes/smoke, carbon black, corrosive gases/vapours

5.3. Advice for fire-fighters
Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective clothing. Do not breathe vapour/aerosol/spray mists. Handle in accordance with good industrial hygiene and safety practice.

6.2. Environmental precautions
Contain contaminated water/firefighting water. Do not allow to enter soil, waterways or waste water channels.

6.3. Methods and material for containment and cleaning up
For small amounts: Pick up with inert absorbent material (e.g. sand, earth etc.). Dispose of contaminated material as prescribed.
For large amounts: Pump off product.

6.4. Reference to other sections
Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Avoid contact with the skin, eyes and clothing. Smoking, eating and drinking are forbidden in application area. For personal protection see section 8. Comply with the health and safety at work laws. Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:
No special precautions necessary.

7.2. Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE)
Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect from direct sunlight. Store protected against freezing.

Frost sensitive

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

64-19-7: acetic acid...%
TWA value 25 mg/m3 ; 10 ppm (OEL (EU))
indicative

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection:
Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc. Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures
Do not inhale gases/vapours/aerosols. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid
Colour:	brown
Odour:	acidulous
pH value:	3.5 - 4.2 (25 °C)
Melting point:	< 0 °C
Boiling point:	dropped
Flash point:	> 100 °C
Flammability:	not highly flammable
Flammability of Aerosol Products:	not applicable, the product does not form flammable aerosoles
Vapour pressure:	not applicable
Density:	approx. 1.1 g/cm3 (20 °C)
Solubility in water:	miscible
Self ignition:	Temperature: 100 - 105 °C
Thermal decomposition:	No decomposition if correctly stored and handled.
Viscosity, dynamic:	approx. 4.46 mPa*s (approx. 25 °C)
Explosion hazard:	not explosive
Fire promoting properties:	not fire-propagating

9.2. Other information

Other Information:
If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 10: Stability and Reactivity

10.1. Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: No corrosive effect on metal.

10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.

10.4. Conditions to avoid
See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:
strong oxidizing agents, strong reducing agents

10.6. Hazardous decomposition products

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Experimental/calculated data:
ATE (oral): > 2,000 mg/kg

Irritation

Assessment of irritating effects:
Risk of serious damage to eyes.

Respiratory/Skin sensitization

Assessment of sensitization:
May cause sensitization by skin contact.

Germ cell mutagenicity

Assessment of mutagenicity:

The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Carcinogenicity

Assessment of carcinogenicity:
The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Reproductive toxicity

Assessment of reproduction toxicity:
The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Developmental toxicity

Assessment of teratogenicity:
The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
No reliable data was available concerning repeated dose toxicity. Based on available Data, the classification criteria are not met.

Aspiration hazard

No aspiration hazard expected.

Other relevant toxicity information

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity to fish:
LC50 (96 h) > 100 mg/l, Cyprinus carpio

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Not readily biodegradable (by OECD criteria).

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Adsorption in soil: Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

12.5. Results of PBT and vPvB assessment

The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

12.6. Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

12.7. Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

This material and its container must be disposed of in a safe way.
Must be disposed of or incinerated in accordance with local regulations.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).
This product and any uncleaned containers must be disposed of as hazardous waste in accordance with the 2005 Hazardous Waste Regulations and amendments (United Kingdom)

Contaminated packaging:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known
Transport in inland waterway vessel:	Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable

Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

14.1. UN number
See corresponding entries for “UN number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)
See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user
See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).
This product is classified under the Chemicals (Hazard Information and Packaging) Regulations, (CHIP) (United Kingdom).

15.2. Chemical Safety Assessment

Chemical Safety Assessment not required

SECTION 16: Other Information

In addition to the information given in the safety data sheet we refer to the product specific 'Technical Information'.

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

Xi	Irritant.
C	Corrosive.
43	May cause sensitization by skin contact.
38	Irritating to skin.
41	Risk of serious damage to eyes.
10	Flammable.
35	Causes severe burns.
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Sens.	Skin sensitization
Skin Corr./Irrit.	Skin corrosion/irritation
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Flam. Liq.	Flammable liquids
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H412	Harmful to aquatic life with long lasting effects.
H226	Flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.

If you have any queries relating to this MSDS, it's contents or any other product safety related questions, please write to the following e-mail address: product-safety-north@basf.com

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.

Safety data sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Wolsit SP

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: process chemical
Recommended use: Waterbased additive for liquid processing systems

1.3. Details of the supplier of the safety data sheet

Company:
BASF Wolman GmbH
Dr.-Wolman-Str. 31-33
76547 Sinzheim, Germany

Contact address:
BASF plc
PO Box 4, Earl Road, Cheadle Hulme,
Cheadle, Cheshire
SK8 6QG, UNITED KINGDOM

Telephone: +44 161 485-6222
E-mail address: product-safety-north@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:
Causes burns.

May cause sensitization by skin contact.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

According to Directive 67/548/EEC or 1999/45/EC

Directive 1999/45/EC ('Preparation Directive')

Hazard symbol(s)

C	Corrosive.	
N	Dangerous for the environment.	

R-phrase(s)

R34	Causes burns.
R43	May cause sensitization by skin contact.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28.2	After contact with skin, wash immediately with plenty of water.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Hazard determining component(s) for labelling: MIXTURE OF: 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE AND 2-METHYL-2H-ISOTHIAZOL-3-ONE (3:1)

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Preparation based on: 5-Chloro-2-methyl-2H-isothiazol-3-one, 2-Methyl-2H-isothiazol-3-one

Hazardous ingredients (GHS)
according to Regulation (EC) No. 1272/2008

a mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)

Content (W/W): >= 1 % - < 2.5 %	Acute Tox. 3 (oral)
CAS Number: 55965-84-9	Acute Tox. 3 (Inhalation - mist)
INDEX-Number: 613-167-00-5	Acute Tox. 3 (dermal)
	Skin Corr./Irrit. 1B
	Skin Sens. 1
	Aquatic Acute 1
	Aquatic Chronic 1
	H314, H311, H331, H301, H317, H400, H410

Hazardous ingredients
according to Directive 1999/45/EC

a mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one (3:1)
Content (W/W): >= 1 % - < 2.5 %
CAS Number: 55965-84-9
INDEX-Number: 613-167-00-5
Hazard symbol(s): T, N
R-phrase(s): 23/24/25, 34, 43, 50/53

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

First aid personnel should pay attention to their own safety. Immediately remove contaminated clothing.

If inhaled:
If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:
After contact with skin, wash immediately with plenty of water and soap. Under no circumstances should organic solvent be used. If irritation develops, seek medical attention.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: skin corrosion, Eye irritation, allergic symptoms

4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

5.2. Special hazards arising from the substance or mixture

Carbon dioxide, carbon monoxide, nitrogen oxides, fumes/smoke, carbon black, corrosive gases/vapours

5.3. Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Do not breathe vapour/aerosol/spray mists. Handle in accordance with good industrial hygiene and safety practice.

6.2. Environmental precautions

Contain contaminated water/firefighting water. Do not allow to enter soil, waterways or waste water channels.

6.3. Methods and material for containment and cleaning up

For small amounts: Pick up with inert absorbent material (e.g. sand, earth etc.). Dispose of contaminated material as prescribed.
For large amounts: Pump off product.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Avoid contact with the skin, eyes and clothing. Smoking, eating and drinking are forbidden in application area. For personal protection see section 8. Comply with the health and safety at work laws. Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:
No special precautions necessary.

7.2. Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE)
Further information on storage conditions: Keep away from food, drink and animal feeding stuffs. Keep only in the original container. Keep container tightly closed. Store protected against freezing. Keep locked-up and out of reach of children.

Protect from temperatures below: 5 °C
Characteristics of the product are irreversibly changed below the limit temperature.

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

55965-84-9: mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no.247- 500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1); mix ture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no.247- 500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection:
Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures
Do not inhale gases/vapours/aerosols. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid	
Colour:	greenish	
Odour:	mild	
pH value:	approx. 2 - 5 (20 °C)	
Melting temperature:	approx. -3 °C	
boiling temperature:	approx. 100 °C	
Flash point:	A flash point determination is unnecessary due to the high water content.	
Evaporation rate:	not determined	
Flammability:	not flammable	
Ignition temperature:	not applicable	
Vapour pressure:	approx. 27.2 hPa (20 °C)	(OECD Guideline 104)
Density:	approx. 1.02 g/cm3 (20 °C)	
Relative vapour density (air):	not determined	
Solubility in water:	fully soluble (20 °C)	
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, dynamic:	approx. 3 mPa.s (25 °C)	(DIN EN ISO 2555)
Explosion hazard:	not explosive	

9.2. Other information

Miscibility with water:
(20 °C)
miscible in all proportions
Other Information:
If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 10: Stability and Reactivity

10.1. Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.

10.4. Conditions to avoid
See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:
strong oxidizing agents, strong reducing agents

10.6. Hazardous decomposition products

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Experimental/calculated data:
LD50 rat (oral): > 2,000 mg/kg

LD50 rat (dermal): > 2,000 mg/kg

Irritation

Experimental/calculated data:
Skin corrosion/irritation: Corrosive.

Serious eye damage/irritation: Corrosive.

Respiratory/Skin sensitization

Assessment of sensitization:
May cause sensitization by skin contact.

Germ cell mutagenicity

Assessment of mutagenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Carcinogenicity

Assessment of carcinogenicity:
Not expected to be carcinogenic (based on composition).

Reproductive toxicity

Assessment of reproduction toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Developmental toxicity

Assessment of teratogenicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Other relevant toxicity information

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity to fish:
LC50 (96 h) 10 - 100 mg/l

Aquatic invertebrates:
No observed effect concentration (48 h) 1 - 10 mg/l, Daphnia magna

Microorganisms/Effect on activated sludge:
EC50 (3 h) 10 - 100 mg/l

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Readily biodegradable (according to OECD criteria).

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

12.5. Results of PBT and vPvB assessment

The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

12.6. Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

12.7. Additional information

Other ecotoxicological advice:
The product should not be allowed to reach either sewage waters or water purification plants. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

This material and its container must be disposed of in a safe way.
Must be sent to a suitable incineration plant, observing local regulations.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).
This product and any uncleaned containers must be disposed of as hazardous waste in accordance with the 2005 Hazardous Waste Regulations and amendments (United Kingdom)

Contaminated packaging:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport Information

Land transport

ADR

UN number	UN3265
UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains 5-CHLORO-2-METHYL-2H-ISOTHIAZOL-3-ONE)
Transport hazard class(es):	8, EHSM
Packing group:	II
Environmental hazards:	yes
Special precautions for user:	Tunnel code: E

RID

UN number	UN3265
UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains 5-CHLORO-2-METHYL-2H-ISOTHIAZOL-3-ONE)
Transport hazard class(es):	8, EHSM
Packing group:	II
Environmental hazards:	yes
Special precautions for user:	None known

Inland waterway transport

ADN

UN number	UN3265
UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains 5-CHLORO-2-METHYL-2H-ISOTHIAZOL-3-ONE)
Transport hazard class(es):	8, EHSM
Packing group:	II
Environmental hazards:	yes
Special precautions for user:	None known
Transport in inland waterway vessel:	Not evaluated

Sea transport

IMDG

UN number:	UN 3265

UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains 5-CHLORO-2-METHYL-2H-ISOTHIAZOL-3-ONE)
Transport hazard class(es):	8, EHSM
Packing group:	II
Environmental hazards:	yes Marine pollutant: YES
Special precautions for user:	None known

Air transport

IATA/ICAO

UN number:	UN 3265
UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (contains 5-CHLORO-2-METHYL-2H-ISOTHIAZOL-3-ONE)
Transport hazard class(es):	8
Packing group:	II
Environmental hazards:	No Mark as dangerous for the environment is needed
Special precautions for user:	None known

14.1. UN number
See corresponding entries for “UN number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)
See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user
See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated

Pollution category:	Not evaluated
Ship Type:	Not evaluated

Further information
This product is subject to the most recent edition of "The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations" and their amendments (United Kingdom).

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).
This product is classified under the Chemicals (Hazard Information and Packaging) Regulations, (CHIP) (United Kingdom).
This product may be subject to the Control of Major Accident Hazards Regulations (COMAH), and amendments if specific threshold tonnages are exceeded (United Kingdom).

To avoid risks to man and the environment, comply with the instructions for use.

Biocidal Products Directive 98/8/EC

15.2. Chemical Safety Assessment

Chemical Safety Assessment not required

SECTION 16: Other Information

In addition to the information given in the safety data sheet we refer to the product specific 'Technical Information'.

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

T	Toxic.
N	Dangerous for the environment.
23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
34	Causes burns.
43	May cause sensitization by skin contact.
50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Skin Sens.	Skin sensitization
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
H314	Causes severe skin burns and eye damage.

H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H301	Toxic if swallowed.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

If you have any queries relating to this MSDS, it's contents or any other product safety related questions, please write to the following e-mail address: product-safety-north@basf.com

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Appendix F

Sawmill Abstraction Borehole Installation Details

WELL AND PUMP DATA

W. B. & A. D. MORGAN

Water Well Drilling,
Electrical Engineers and Pumping Specialists
The Old Vicarage, Lyonshall,
Kington, Herefordshire HR5 3LN
Telephone LYONSHALL (05448) 297/577

Property owner's name and address
Bishops Castle
Mr. B Davis
Timber Yard

Remarks, Comments, etc.

886

Well depth 250FT 75.7M | Datum point from which all measurements are taken Surface

Method of Drilling
☑ Rotary hammer ☐ F.O.A. ☐ Direct rotary

Use
☐ Domestic ☐ Public supply ☑ Industrial
☐ Irrigation ☐ Commercial ☐ Monitoring
☐ Test Well ☐ Heating or cooling ☐ _____

Temporary Casing
Hole Dia 10" in/cm Casing Size 10" in/cm Depth 50FT ft/m
Hole Dia 254mm in/cm Casing Size 254mm in/cm Depth _____ ft/m
Hole Dia _____ in/cm Casing Size _____ in/cm Depth _____ ft/m
Hole Dia _____ in/cm Casing Size _____ in/cm Depth _____ ft/m

Permanent Casing
☐ Steel ☑ PVC ☐ Other
☑ Threaded ☐ Welded ☐ Solvent
Hole Dia 6" in/cm Casing Size _____ in/cm Depth 0 ft/m
Hole Dia 153 MM in/cm Casing Size _____ in/cm Depth 75.7M ft/m

Intake Portion of Well
Screen type _____ or open hole from _____ ft/m to _____ ft/m
Manufacturer Boode
Material _____ Dia. _____
Fittings _____ Length _____
Set between 72.7M ft/m and 60.M ft/m Slot _____
240FT ft/m and 200FT ft/m Slot _____
_____ ft/m and _____ ft/m Slot _____

Filter Pack
Volume used 50cwt Depth to top of f.p. 63.6M

Grout
Used? ☑ Yes ☐ No Volume used 1/4cwt
☑ Neat Cement ☐ Bentonite ☐ _____
Method of installation
Depth: from 210FT/63.6M ft/m to Surface ft/m
from _____ ft/m to _____ ft/m

Development
Method _____ Duration _____
Dates _____ Sand content after ___ hrs. _____

Static Water Level
_____ ft/m ☐ below ☐ above grade
Date measured _____

Pumping Water Level
_____ ft/m ☐ below ☐ above grade Date _____
After _____ hrs. pumping at _____ gpm/lpm

Pump
Date installed _____ Type _____
Manufacturer _____ Model No. _____
H.P. _____ Volts _____ Capacity _____
Depth of pump intake setting _____ No. of stages _____
Material of drop pipe _____

Water Quality
Sample taken? ☐ Yes ☐ No
Where analyzed _____

NGR _____ Licence No. _____

Formation Log	Colour	Hardness	From	To
Gravels	Grey	Soft	0	10.6M
Clay	Grey	Soft	10.6M	15.1M
Shale	Grey	Hard	15.1M	75.7M

Water Made @ 140FT/42.4m 200FT/60.6m ft/m

Drilling Crew D Price . Aswough Rig _____

Date started 12 Dec 12/93 completed Dec. 24th/93

INSTALLATION COMPLETION DETAILS

Drilled for A. EVANSON ..... Date 11.5.94 .....

Address STATION STREET ..... Depth 250' .....

BISHOPS CASTLE ..... Pump at 240' .....

SHROPSHIRE .....

DETAILS

Liner 4" ..... 6" ..✓.....

Riser 25mm ..... 32mm ..✓.... 50mm .✓.....

Other .....

Delivery 25mm ..... 32mm ..... 50mm ..... CLIENT

Other .....

Remarks :
.....
.....
.....
.....
.....
.....
.....

Static Level 9.4 ....

Pump Water Level After 3½ .... Hrs @ 540 ~~GPH~~ G.P.H. 32M.

SITEWORK

Chamber ..... WELL HEAD ONLY. 6"
Pump house .....

PUMP

Make ..GODWIN.....

Size ..CC19.....

H.P. ..2H.P. 3Ø.....

Controls In ..✓.....
Box on Post ....✓

Probes ....✓
Float ..✓..
Flow .....
Pressure ..... Setting .....

Pressure Set Size .....

Blue ..... Red ..✓.. Vert / Horiz

Water Meter ✓.... In 1¼" .....

Date .....

ADDITIONAL INFORMATION

DIP HOLE

NO WELL CHAMBER REQUIRED T.

BOREHOLE ON CONCRETE PLINTH 50mm GUAGE

6" WELL HEAD ONLY.

Appendix G

Pumping Station Borehole Installation Details

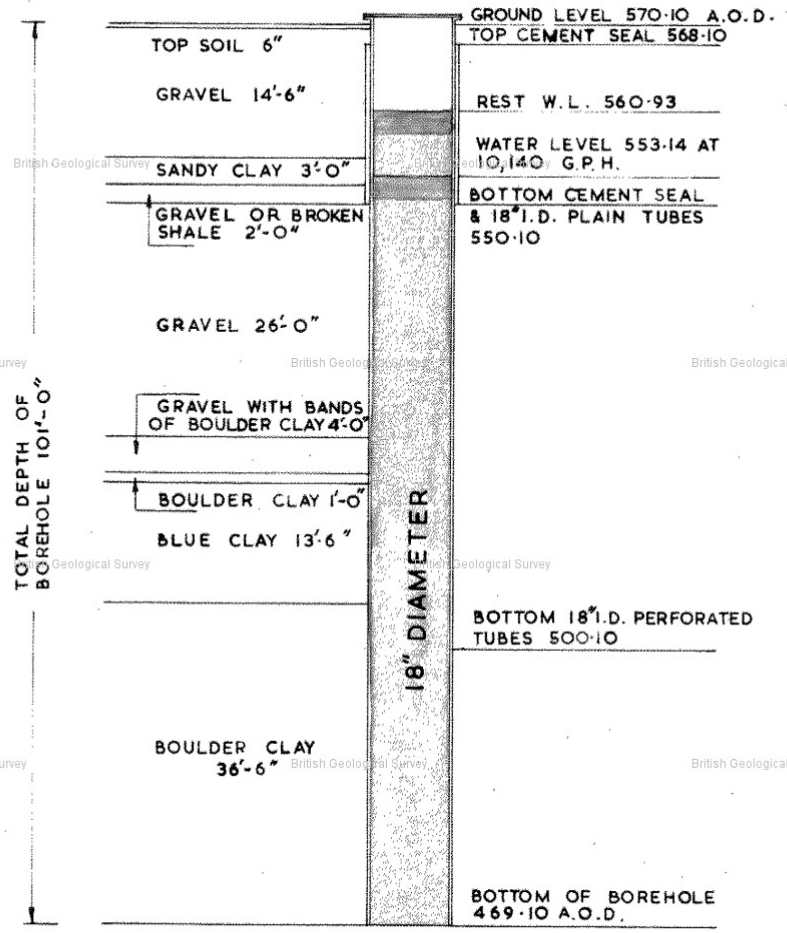
N. 8074

165/29 SO38/13

BOROUGH OF BISHOP'S CASTLE

SECTION OF BOREHOLE AT

BISHOP'S CASTLE



VERTICAL SCALE 16 FT. TO 1 INCH

	INITIALS	DATE
DRAWN BY	W. R. H.	AUG. 1957
TRACED BY	W. R. H.	AUG 1957
CHECKED BY		

WILLCOX RAIKES & MARSHALL
CHARTERED CIVIL ENGINEERS
BIRMINGHAM
AUGUST 1957 No 105/A