

SAFETY DATA SHEET

E3503I INT 700 BLOOMBER INOX SA40 20KG

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

1.1 Product identifier

Product name : E3503I INT 700 BLOOMBER INOX SA40 20KG
SDS code : 8257822
E3503I/20KG

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

Identified uses
Powder coating. Industrial use

Uses advised against
All other uses

Product use : Electrostatic coating for use in industrial plants

1.3 Details of the supplier of the safety data sheet

AkzoNobel Powder Coatings Limited
Stoneygate Lane,
Felling,
Gateshead.
NE10 0JY
United Kingdom

e-mail address of person responsible for this SDS : sdsfellinguk@akzonobel.com

National contact

01 8092566 or 01 8379964

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : +44 (0)344 892 0111

Supplier

Telephone number : +44 0191 469 6111

Hours of operation :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Aquatic Chronic 2, H411

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

SECTION 2: Hazards identification

2.2 Label elements

Hazard pictograms :



Signal word :

No signal word.

Hazard statements :

Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention :

Avoid release to the environment.

Response :

Collect spillage.

Storage :

Not applicable.

Disposal :

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements :

Contains benzene-1,2,4-tricarboxylic acid 1,2-anhydride. May produce an allergic reaction.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles :

Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings :

Not applicable.

Tactile warning of danger :

Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII :

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification :

May form combustible dust concentrations in air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

: Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
benzene-1,2,4,5-tetracarboxylic acid, compound with 4,5-dihydro-2-phenyl-1H-imidazole (1:1) copper	EC: 259-224-4 CAS: 54553-90-1	≤5	Aquatic Chronic 3, H412	[1]
	EC: 231-159-6 CAS: 7440-50-8	≤2	Acute Tox. 4, H302 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1)	[1] [2]
3,9-bis(2,4-di-tert-butylphenoxy)-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane	EC: 247-952-5 CAS: 26741-53-7	≤1	Aquatic Chronic 1, H410 (M=1)	[1]
zinc powder zinc dust (stabilised)	EC: 231-175-3 CAS: 7440-66-6	≤0.4	Aquatic Acute 1, H400 (M=1)	[1]

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SECTION 3: Composition/information on ingredients

benzene-1,2,4-tricarboxylic acid 1,2-anhydride	Index: 030-001-01-9 EC: 209-008-0 CAS: 552-30-7 Index: 607-097-00-4	≤0.3	Aquatic Chronic 1, H410 (M=1) Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335	[1] [2] [5]
2-ethyl-N,N-bis(2-ethylhexyl) hexylamine	EC: 217-461-0 CAS: 1860-26-0	≤0.3	Repr. 2, H361 STOT RE 2, H373	[1]
1,2-dichlorobenzene	EC: 202-425-9 CAS: 95-50-1 Index: 602-034-00-7	<0.1	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1) See Section 16 for the full text of the H statements declared above.	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such

SECTION 4: First aid measures

- as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact. Coating powders can cause localised skin irritation in folds of the skin or under tight clothing.

Contains benzene-1,2,4-tricarboxylic acid 1,2-anhydride. May produce an allergic reaction.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
irritation
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical powder.
- Unsuitable extinguishing media** : Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : May form explosible dust-air mixture if dispersed. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous combustion products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
phosphorus oxides
metal oxide/oxides

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

SECTION 5: Firefighting measures

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

- : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

- Small spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

- : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid release to the environment. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

SECTION 7: Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
E2	200 tonne	500 tonne

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
copper	EH40/2005 WELs (United Kingdom (UK), 1/2020). Notes: as Cu TWA: 0.2 mg/m ³ , (as Cu) 8 hours. Form: Fume
benzene-1,2,4-tricarboxylic acid 1,2-anhydride	EH40/2005 WELs (United Kingdom (UK), 1/2020). Inhalation sensitiser. STEL: 0.12 mg/m ³ 15 minutes. TWA: 0.04 mg/m ³ 8 hours.
1,2-dichlorobenzene	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin. STEL: 306 mg/m ³ 15 minutes. STEL: 50 ppm 15 minutes. TWA: 153 mg/m ³ 8 hours. TWA: 25 ppm 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance

SECTION 8: Exposure controls/personal protection

documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects	
benzene-1,2,4,5-tetracarboxylic acid, compound with 4,5-dihydro-2-phenyl-1H-imidazole (1:1)	DNEL	Long term Oral	0.272 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	0.272 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	0.473 mg/m ³	General population	Systemic	
	DNEL	Long term Dermal	0.544 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Inhalation	1.92 mg/m ³	Workers	Systemic	
	copper	DNEL	Short term Inhalation	1 mg/m ³	General population	Local
		DNEL	Long term Inhalation	1 mg/m ³	General population	Local
		DNEL	Short term Inhalation	20 mg/m ³	General population	Systemic
		DNEL	Short term Inhalation	20 mg/m ³	Workers	Systemic
		DNEL	Long term Dermal	137 mg/kg bw/day	General population	Systemic
		DNEL	Long term Dermal	137 mg/kg bw/day	Workers	Systemic
		DNEL	Short term Dermal	273 mg/kg bw/day	General population	Systemic
		DNEL	Short term Dermal	273 mg/kg bw/day	Workers	Systemic
	3,9-bis(2,4-di-tert-butylphenoxy)-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane	DNEL	Long term Oral	0.275 mg/kg bw/day	General population	Systemic
		DNEL	Long term Dermal	0.275 mg/kg bw/day	General population	Systemic
DNEL		Long term Dermal	0.55 mg/kg bw/day	Workers	Systemic	
zinc powder zinc dust (stabilised)	DNEL	Long term Oral	0.83 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	2.5 mg/m ³	General population	Systemic	
	DNEL	Long term Inhalation	5 mg/m ³	Workers	Systemic	
	DNEL	Long term Dermal	83 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	83 mg/kg bw/day	Workers	Systemic	
	benzene-1,2,4-tricarboxylic acid 1,2-anhydride	DNEL	Long term Oral	2.5 mg/kg bw/day	General population	Systemic
DNEL		Long term Dermal	2.5 mg/kg bw/day	General population	Systemic	
DNEL		Long term Inhalation	4.4 mg/m ³	General population	Systemic	
DNEL		Short term Oral	5 mg/kg bw/day	General population	Systemic	
DNEL		Short term Dermal	5 mg/kg bw/day	General population	Systemic	
DNEL		Long term Dermal	5 mg/kg bw/day	Workers	Systemic	
DNEL		Short term	8.8 mg/m ³	General	Systemic	

SECTION 8: Exposure controls/personal protection

2-ethyl-N,N-bis(2-ethylhexyl) hexylamine	DNEL	Inhalation Short term Dermal	10 mg/kg bw/day	population Workers	Systemic
	DNEL	Long term Inhalation	17.5 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	35 mg/m ³	Workers	Systemic
	DNEL	Long term Oral	0.03 mg/ kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.06 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	0.07 mg/ kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.13 mg/ kg bw/day	Workers	Systemic
1,2-dichlorobenzene	DNEL	Long term Inhalation	0.23 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	3 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	10 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	10 mg/m ³	Workers	Local
	DNEL	Short term Dermal	15 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	20 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	100 mg/m ³	Workers	Systemic

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Skin protection

SECTION 8: Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time >480 minutes according to EN374) is recommended. Recommended gloves: Viton ® or Nitrile, thickness ≥ 0.38 mm. When only brief contact is expected, a glove with protection class of 2 or higher (breakthrough time >30 minutes according to EN374) is recommended. Recommended gloves: Nitrile, thickness ≥ 0.12 mm.
- Gloves should be replaced regularly and if there is any sign of damage to the glove material.
- The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.
- For prolonged or repeated handling, use the following type of gloves:
 Vinyl gloves. (EN 374)
 Nitrile gloves. (EN 374)
- The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.
- The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Personnel should wear protective clothing. Care should be taken in the selection of protective clothing to ensure that inflammation and irritation of the skin at the neck and wrists through contact with the powder are avoided.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Solid. [Powder.]
- Colour** :  Silver.
- Odour** : Odourless.
- Odour threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : Not available.

SECTION 9: Physical and chemical properties

Initial boiling point and boiling range	: Not available.
Flash point	: Closed cup: Not applicable.
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Upper/lower flammability or explosive limits	: 20 - 70 g/m ³
Vapour pressure	: Not available.
Relative density	: 1.2 to 1.9 [ISO 8130-2/-3]
Solubility(ies)	: Insoluble in the following materials: cold water.
Partition coefficient: n-octanol/ water	: Not available.
Auto-ignition temperature	: 450 to 600°C
Decomposition temperature	: Not available.
Viscosity	: Kinematic (room temperature): Not applicable. Kinematic (40°C): Not applicable.

9.2 Other information

Minimum ignition energy (mJ) : 5 to 20

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation.
10.5 Incompatible materials	: Reactive or incompatible with the following materials: oxidising materials
10.6 Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
copper	LD50 Intraperitoneal	Mouse	0.07 mg/kg	-
	LD50 Oral	Mouse	>5000 mg/kg	-
	LD50 Oral	Mouse	413 mg/kg	-
	LD50 Oral	Rat	5580 mg/kg	-
3,9-bis(2,4-di-tert-butylphenoxy)-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane	LD50 Oral	Mouse	1900 mg/kg	-
	LD50 Oral	Rabbit	5600 mg/kg	-
benzene-1,2,4-tricarboxylic acid 1,2-anhydride	LD50 Oral	Mouse	1236 ppm	6 hours
	LC50 Inhalation Gas.	Rat	1532 ppm	6 hours
	LC50 Inhalation Gas.	Rat	8150 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>10 g/kg	-
	LD50 Intraperitoneal	Mouse	1228 mg/kg	-
	LD50 Intraperitoneal	Rat	840 mg/kg	-
	LD50 Oral	Mouse	4386 mg/kg	-
	LD50 Oral	Rabbit	500 mg/kg	-
	LD50 Oral	Rat	500 mg/kg	-
	LD50 Subcutaneous	Rat	5 g/kg	-

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
3,9-bis(2,4-di-tert-butylphenoxy)-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane	Skin - Severe irritant	Rabbit	-	0.5 gm	-
	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 mg	-

Conclusion/Summary : Not available.

Sensitisation

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
benzene-1,2,4-tricarboxylic acid 1,2-anhydride	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
2-ethyl-N,N-bis(2-ethylhexyl)hexylamine	Category 2	-	-

SECTION 11: Toxicological information

Aspiration hazard

Not available.

Information on likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
irritation
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

Not available.

- Conclusion/Summary** : Not available.
- General** : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

There are no data available on the mixture itself.

Coating powder residues should not be allowed to enter drains or watercourses or be deposited where they could affect ground or surface waters.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

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SECTION 12: Ecological information

Product/ingredient name	Result	Species	Exposure
copper	Acute EC50 18 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Acute EC50 18 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 1100 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 1.6 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 1.6 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 1.6 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute EC50 1 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute EC50 3.2 µg/l Fresh water	Daphnia - Daphnia galeata - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute EC50 3.1 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute EC50 2.1 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute EC50 2.5 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 3.1 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 16 µg/l Fresh water	Fish - Osteichthyes - Adult	96 hours
	Acute LC50 8.7 µg/l Fresh water	Fish - Osteichthyes - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 10.3 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 9.4 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 7.56 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 3 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 3.2 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Chronic NOEC 0.013 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 7 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
Chronic NOEC 29.4 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	21 days	
Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days	
Chronic NOEC 15 µg/l Fresh water	Daphnia - Daphnia magna	21 days	
Chronic NOEC 5 µg/l Fresh water	Daphnia - Daphnia pulex - Neonate	21 days	

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3,9-bis(2,4-di-tert-butylphenoxy)-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane Zinc powder - zinc dust (stabilized)	Chronic NOEC 5 µg/l Fresh water	Daphnia - Daphnia pulex - Neonate	21 days
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks
	Chronic NOEC 1.2 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks
	Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks
	Chronic NOEC 1.7 µg/l Fresh water EC50 97 mg/l	Fish - Cyprinus carpio Algae	4 weeks 72 hours
	LC50 70.7 mg/l	Fish	96 hours
	Acute EC50 0.005 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 0.0092 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 106 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute EC50 246 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute EC50 10000 µg/l Fresh water Acute EC50 70 µg/l Fresh water	Aquatic plants - Lemna minor Crustaceans - Ceriodaphnia dubia - Neonate	4 days 48 hours
	Acute EC50 356 µg/l Fresh water Acute EC50 354 µg/l Fresh water Acute EC50 175 µg/l Fresh water	Daphnia - Daphnia magna Daphnia - Daphnia magna Fish - Pimephales promelas - Larvae	48 hours 48 hours 96 hours
	Acute LC50 70 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 65 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 76 µg/l Fresh water	Crustaceans - Ceriodaphnia reticulata	48 hours
	Acute LC50 96 µg/l Fresh water	Crustaceans - Ceriodaphnia reticulata	48 hours
	Acute LC50 100 ppb Fresh water Acute LC50 68 µg/l Fresh water Acute LC50 107 µg/l Fresh water Acute LC50 182 µg/l Fresh water	Daphnia - Daphnia magna Daphnia - Daphnia magna Daphnia - Daphnia pulex Fish - Oncorhynchus tshawytscha	48 hours 48 hours 48 hours 96 hours
	Acute LC50 238 µg/l Fresh water	Fish - Pimephales promelas - Newly or recently hatched	96 hours
	Acute LC50 12.21 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Acute LC50 0.24 mg/l Fresh water Chronic NOEC 105 µg/l Fresh water	Fish - Oncorhynchus mykiss Algae - Pseudokirchneriella subcapitata - Exponential growth phase	96 hours 72 hours
	Chronic NOEC 72.9 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours

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SECTION 12: Ecological information

1,2-dichlorobenzene	Chronic NOEC 91 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Chronic NOEC 9 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 9 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 178 µg/l Marine water	Crustaceans - Palaemon elegans	21 days
	Chronic NOEC 62.6 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 94.5 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 72.7 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 172 µg/l Fresh water	Fish - Cottus bairdi	30 days
	Chronic NOEC 199 µg/l Fresh water	Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	30 days
	Chronic NOEC 8.3 µg/l Fresh water	Fish - Cyprinus carpio	4 weeks
	Chronic NOEC 2.6 µg/l Fresh water	Fish - Cyprinus carpio	4 weeks
	Acute EC50 16.2 mg/l Fresh water	Algae - Chlorella marina	72 hours
	Acute EC50 12.8 mg/l Fresh water	Algae - Phaeodactylum tricornutum	72 hours
	Acute EC50 16.9 mg/l Fresh water	Algae - Platymonas subcordiformis	72 hours
	Acute EC50 2.2 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 13.1 mg/l Fresh water	Algae - Nannochloropsis oculata	72 hours
	Acute EC50 0.74 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 1.55 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 10300 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 4.52 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
Acute LC50 2.2 mg/l Fresh water	Daphnia - Daphnia magna	48 hours	
Acute LC50 2400 µg/l Fresh water	Daphnia - Daphnia magna	48 hours	
Acute LC50 1.4 mg/l Fresh water	Fish - Gibelion catla	96 hours	
Acute LC50 1.67 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours	
Acute LC50 1610 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours	
Acute LC50 4.5 mg/l Fresh water	Fish - Danio rerio	96 hours	
Chronic NOEC 0.63 mg/l Fresh water	Daphnia - Daphnia magna	21 days	
Chronic NOEC 630 µg/l Fresh water	Daphnia - Daphnia magna	21 days	

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
benzene-1,2,4,5-tetracarboxylic acid, compound with 4,5-dihydro-2-phenyl-1H-imidazole (1:1)	1	-	low
benzene-1,2,4-tricarboxylic acid 1,2-anhydride	0.06	-	low
2-ethyl-N,N-bis(2-ethylhexyl) hexylamine	10.131	-	high
1,2-dichlorobenzene	3.38	150 to 230	low

12.4 Mobility in soil

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- Soil/water partition coefficient (K_{oc})** : Not available.
- Mobility** : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.
- Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.
- Disposal considerations** : Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

European waste catalogue (EWC)

The European Waste Catalogue classification of this product, when disposed of as waste, is:

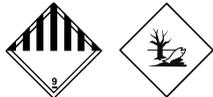
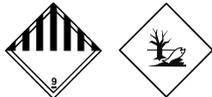
Waste code	Waste designation
EWC 08 02 01	waste coating powders

Packaging

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- Disposal considerations** : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.
- Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	UN3077	UN3077	UN3077
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper)
14.3 Transport hazard class(es)	9 	9 	9 
14.4 Packing group	III	III	III
14.5 Environmental hazards	Yes.	Marine Pollutant(s): copper	Yes.

Additional information

ADR/RID : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

IMDG : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

IATA : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments : Not applicable.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU Regulation (EC) No. 1907/2006 (REACH)****Annex XIV - List of substances subject to authorisation****Annex XIV**

None of the components are listed.

Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
benzene-1,2,4-tricarboxylic acid 1,2-anhydride	Substance of equivalent concern for human health	Candidate	ED/61/2018	6/27/2018

SECTION 15: Regulatory information

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

VOC : The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.

VOC for Ready-for-Use Mixture : Not applicable.

Industrial emissions (integrated pollution prevention and control) - Air : Listed

Industrial emissions (integrated pollution prevention and control) - Water : Listed

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
E2

National regulations

Industrial use : The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Europe : Not determined.

SECTION 15: Regulatory information

15.2 Chemical safety assessment : No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 N/A = Not available
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 SGG = Segregation Group
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Aquatic Chronic 2, H411	Calculation method

Full text of abbreviated H statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Resp. Sens. 1	RESPIRATORY SENSITISATION - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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SECTION 16: Other information

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Notice to reader

FOR PROFESSIONAL USE ONLY

IMPORTANT NOTE The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Material Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advice given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.

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