SAFETY DATA SHEET
UNIPART COOL BLUE ANTIFREEZE

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name	UNIPART COOL BLUE ANTIFREEZE
Product No.	UGCGEC8001 UGCGEC8005 UGCGEC8020 UGCGEC8205

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

Identified uses	Antifreeze liquid.
Uses advised against	This product is not recommended for any industrial, professional or consumer use other than the identified uses stated above.

1.3. Details of the supplier of the safety data sheet

Supplier	Unipart Group Unipart House Cowley Oxford OX4 2PG Tel:01865 383940 Major_Accounts_S_Orders@unipart.co.uk

1.4. Emergency telephone number

T: +44 (0)1604 701111 (Miswa Office Hours Monday - Friday (0900Hrs - 1700Hrs))

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (1999/45/EEC) Xn;R22.

2.2. Label elements

Contains ETHANEDIOL

Labelling

Harmful

Risk Phrases

R22	Harmful if swallowed.

Safety Phrases

S2	Keep out of the reach of children.
S13	Keep away from food, drink and animal feeding stuffs.
S46	If swallowed, seek medical advice immediately and show this container or label.
S56	Dispose of this material and its container to hazardous or special waste collection point.

2.3. Other hazards

This product does not contain any PBT or vPvB substances.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

UNIPART COOL BLUE ANTIFREEZE

DISODIUM TETRABORATE PENTAHYDRATE		1-5%
CAS-No.: 12179-04-3	EC No.: 215-540-4	
Classification (EC 1272/2008) Repr. 1B - H360FD	Classification (67/548/EEC) Repr. Cat. 2;R60,R61	

ETHANEDIOL		60-100%
CAS-No.: 107-21-1	EC No.: 203-473-3	
Classification (EC 1272/2008) Acute Tox. 4 - H302	Classification (67/548/EEC) Xn;R22	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition Comments

The data shown are in accordance with the latest EC Directives.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation

Move the exposed person to fresh air at once.

Get medical attention.

Provide rest, warmth and fresh air.

When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.

Ingestion

DO NOT INDUCE VOMITING!

Remove victim immediately from source of exposure.

Get medical attention immediately!

If person is fully conscious give 1 cup or 8 ounces (240 ml) of water. If medical advice is delayed and if an adult has swallowed several ounces of chemical, then give 3-4 ounces (1/3-1/2 Cup) (90-120 ml) of hard liquor such as 80 proof whiskey. For children, give proportionally less liquor at a dose of 0.3 ounce (1 1/2 tsp.) (8 ml) liquor for each 10 pounds of body weight, or 2 ml per kg body weight [e.g., 1.2 ounce (2 1/3 tbsp.) for a 40 pound child or 36 ml for an 18 kg child].

Skin contact

Remove contaminated clothing.

Wash the skin immediately with soap and water.

Get medical attention if irritation persists after washing.

Wash contaminated clothing before reuse.

Destroy contaminated leather items such as shoes, belts, and watchbands.

Eye contact

Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

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

General information

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

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

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Check section 3.2 to obtain percentage of ethylene glycol in this product, the following is based on 100% ethylene glycol content. If several ounces (60 - 100 ml) of ethylene glycol have been ingested, early administration of ethanol may counter the toxic effects (metabolic acidosis, renal damage). Consider hemodialysis or peritoneal dialysis & thiamine 100 mg plus pyridoxine 50 mg intravenously every 6 hours. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol (Brent, J. et al., New England Journal of Medicine, Feb. 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. Maintain adequate ventilation and oxygenation of the patient. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as any thermal burn, after decontamination. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media

This product is not flammable.

Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide. Nitrogen oxides.

Unusual Fire & Explosion Hazards

Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Specific hazards

Combustible

5.3. Advice for firefighters

Special Fire Fighting Procedures

Water spray should be used to cool containers.

Fight advanced or massive fires from safe distance or protected location.

For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire.

Avoid water in straight hose stream; will scatter and spread fire.

If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak.

Extinguishing waters may present a risk of damage to the environmental, collect and dispose of as hazardous waste, in accordance with local legislation.

Protective equipment for fire-fighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
Do not smoke, use open fire or other sources of ignition.

Avoid inhalation of vapours and contact with skin and eyes.

6.2. Environmental precautions

Avoid from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

6.3. Methods and material for containment and cleaning up

Contain spilled material if possible.

Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

Small Spillages:

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Absorb with materials such as: Cat litter. Sand. Sawdust. Zorb-all®. Hazorb®.

Large spills: Dike area to contain spill. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

6.4. Reference to other sections

For personal protection, see section 8. See section 11 for additional information on health hazards. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid spilling, skin and eye contact.

Do not swallow.

Do not handle broken packages without protective equipment.

Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place.

Keep in original container.

Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
ETHANEDIOL	WEL		10 mg/m3		104 mg/m3	Sk

WEL = Workplace Exposure Limit.

Sk = Can be absorbed through skin.

Ingredient Comments

WEL = Workplace Exposure Limits

8.2. Exposure controls

Protective equipment

Engineering measures

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Respiratory equipment

Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

Hand protection

Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. If hands are cut or scratched, use gloves chemically resistant to this material even for brief exposures. Use gloves with insulation for thermal protection (EN 407), when needed. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a
protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

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Eye protection

Use safety glasses (with side shields), consistent with EN 166 or equivalent.

If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles (goggles consistent with EN 166 or equivalent).

If exposure causes eye discomfort, use a full-face respirator.

Other Protection

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.

Hygiene measures

DO NOT SMOKE IN WORK AREA!

Wash hands at the end of each work shift and before eating, smoking and using the toilet.

Promptly remove any clothing that becomes contaminated.

Wash promptly with soap & water if skin becomes contaminated.

Use appropriate skin cream to prevent drying of skin.

When using do not eat, drink or smoke.

Skin protection

Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. When handling hot material, protect skin from thermal burns as well as from skin absorption.

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	Clear liquid.
Colour	Blue.
Odour	Mild. Characteristic.
Solubility	Completely soluble in water
Initial boiling point and boiling range	>165°C
Relative density	1.12-1.13 @ 20°C
pH-Value, Diluted Solution	7.5-8.0 @ 50% water solution
Flash point	120°C CC (Closed cup).

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Stable under normal temperature conditions and recommended use.

10.2. Chemical stability

Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

Hazardous Polymerisation

Will not polymerise.

10.4. Conditions to avoid

Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

10.5. Incompatible materials

Materials To Avoid

Strong acids.

Strong oxidising substances.

Strong alkalis.

10.6. Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to:

Aldehydes.

Ethers.

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Alcohols.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Toxicological information

The product is not expected to be toxic to aquatic organisms.

Other Health Effects

This substance has no evidence of carcinogenic properties.

Inhalation

Unlikely to be hazardous by inhalation because of the low vapour pressure of the substance at ambient temperature. Vapour may irritate respiratory system or lungs.

Ingestion

Harmful: possible risk of irreversible effects if swallowed. Headache. Nausea, vomiting.

Skin contact

Prolonged and frequent contact may cause redness and irritation. Not a skin sensitiser.

Eye contact

Splashes may irritate.

Route of entry

Ingestion.

Medical Symptoms

Headache. Nausea, vomiting.

Specific effects

May cause damage to the kidneys. May cause damage to the liver.

Toxicological information on ingredients.

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ETHANEDIOL (CAS: 107-21-1)

Acute toxicity:

Acute Toxicity (Oral LD50)

7712 mg/kg Rat

Acute Toxicity (Dermal LD50)

> 3500 mg/kg Mouse

Acute Toxicity (Inhalation LC50)

> 2.5 mg/l (vapours) Rat

Skin Corrosion/Irritation:

Not irritating. Rabbit

Serious eye damage/irritation:

Not Irritating. Rabbit

Respiratory or skin sensitisation:

Respiratory sensitisation

Guinea Pig

Not sensitising.

Skin sensitisation

Guinea Pig

Not Sensitising.

Aspiration hazard:

Inhalation

At room temperature, exposure to vapor is minimal due to low volatility. With good ventilation, single exposure is not expected to cause adverse effects. If material is heated or areas are poorly ventilated, vapor/mist may accumulate and cause respiratory irritation and symptoms such as headache and nausea.

Ingestion

Oral toxicity is expected to be moderate in humans due to ethylene glycol even though tests with animals show a lower degree of toxicity. Ingestion of quantities (approximately 65 mL (2 oz.) for diethylene glycol or 100 mL (3 oz.) for ethylene glycol) has caused death in humans. May cause nausea and vomiting. May cause abdominal discomfort or diarrhea. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. For Ethylene glycol: Lethal Dose, Human, adult 100 ml LD50, rat, male and female 7, 712 mg/kg.

Skin contact

Prolonged skin contact is unlikely to result in absorption of harmful amounts. Repeated skin exposure to large quantities may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of potentially lethal amounts.

Eye contact

May cause temporary eye irritation. Spray and vapour in the eyes may cause irritation and smarting.

Route of entry

Ingestion.

Target Organs

Kidneys Liver

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DISODIUM TETRABORATE PENTAHYDRATE (CAS: 12179-04-3)

Acute toxicity:

Acute Toxicity (Oral LD50)

> 3200 mg/kg Rat

Low acute oral toxicity.

Acute Toxicity (Dermal LD50)

> 2000 mg/kg Rabbit

The substance is poorly absorbed through intact skin.

Low acute dermal toxicity.

Acute Toxicity (Inhalation LC50)

> 2.0 mg/l (dust/mist) Rat

Low acute inhalation toxicity.

Carcinogenicity:

No evidence of carcinogenicity in animal studies

Aspiration hazard:

Skin contact

Not irritating. Not a skin sensitiser.

Mild eye irritant in rabbits.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

The product is not expected to be hazardous to the environment.

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Ecological information on ingredients.

DISODIUM TETRABORATE PENTAHYDRATE (CAS: 12179-04-3)

Ecotoxicity

Boron occurs naturally in sea water at an average concentration of 5 mg B/l and fresh water at 1 mg B/l or less. In dilute aqueous solutions the predominant boron species present is undissociated boric acid.

12.1. Toxicity

The product is not expected to be toxic to aquatic organisms.

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Ecological information on ingredients.

ETHANEDIOL (CAS: 107-21-1)

Acute Toxicity - Fish

LC50 96 hours 72860 mg/l Pimephales promelas (Fat-head Minnow)

Acute Toxicity - Aquatic Invertebrates

EC50 48 hours > 100 mg/l Daphnia magna

Acute Toxicity - Aquatic Plants

EC50 96 hours 6500 - 13000 mg/l Selenastrum capricornutum

Acute Toxicity - Microorganisms

EC20 30 min > 1995 mg/l Activated sludge

DISODIUM TETRABORATE PENTAHYDRATE (CAS: 12179-04-3)

All toxicity values relate to Boron (Boron = Disodium Tetraborate Pentahydrate multiplied by 0.1484).

Acute Toxicity - Fish

LC50 96 hours 74 mg/l Marinewater fish

Rainbow trout, Oncorhynchus mykiss (embryo-larval stage)
24-day LC50 = 88 mg/L
32-day LC50 = 54 mg/L
Goldfish, Carassius auratus (embryo-larval stage)
7-day LC50 = 65 mg/L
3-day LC50 = 71 mg/L
Daphnia, Daphnia magna Straus
24-hr IC50 = 242 mg/L

Acute Toxicity - Aquatic Plants

EC50 96 hours 24 mg/l Scenedesmus subspicatus

Toxicity to terrestrial plants:

Boron is an essential micronutrient for healthy growth of plants, however, it can be harmful to boron sensitive plants in higher quantities. Care should be taken to minimise the amount of borate product released to the environment.

12.2. Persistence and degradability

Degradability

The product is biodegradable, but it must not be discharged into drains without permission from the authorities.
The product is degraded completely by photochemical oxidation.

Ecological information on ingredients.

ETHANEDIOL (CAS: 107-21-1)

Degradability

The product is biodegradable.

Biodegradation

Degradation (90 - 100%%) 10 days

Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% biodegradation in OECD test(s) for inherent biodegradability).

DISODIUM TETRABORATE PENTAHYDRATE (CAS: 12179-04-3)

Boron is naturally occurring and ubiquitous in the environment. Borax pentahydrate decomposes in the environment to natural borate.

12.3. Bioaccumulative potential

Bioaccumulative potential

The product does not contain any substances expected to be bioaccumulating.

Ecological information on ingredients.

ETHANEDIOL (CAS: 107-21-1)

Bioaccumulative potential

Not potentially bioaccumulative

Partition coefficient

log Pow -1.36

12.4. Mobility in soil

Mobility:

The product is soluble in water.
Volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

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Ecological information on ingredients.

ETHANEDIOL (CAS: 107-21-1)

Mobility:
The product is soluble in water.
Volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Potential for mobility in soil is very high.
Adsorption/Desorption Coefficient
Soil Koc ~ 1
Henry's Law Constant
~ 8.05E-09 atm m3/mol 25°C

DISODIUM TETRABORATE PENTAHYDRATE (CAS: 12179-04-3)

Mobility:
The product is soluble in water.
Potential for mobility in soil is very high.

12.5. Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB substances.

Ecological information on ingredients.

ETHANEDIOL (CAS: 107-21-1)

Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

Not applicable.

SECTION 13: DISPOSAL CONSIDERATIONS

General information
This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.

13.1. Waste treatment methods

Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.
Do not allow to enter drains, sewers or watercourses.

SECTION 14: TRANSPORT INFORMATION

General	The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).
Road Transport Notes	Not Classified
Rail Transport Notes	Not classified.
Sea Transport Notes	Not classified.
Air Transport Notes	Not classified.

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

Transport Labels

No transport warning sign required.

14.4. Packing group

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant
No.

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14.6. Special precautions for user

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

SECTION 15: REGULATORY INFORMATION

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

Environmental Listing

Control of Pollution (Special Waste Regulations) Act 1980.

Statutory Instruments

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).

Approved Code Of Practice

Classification and Labelling of Substances and Preparations Dangerous for Supply.

Guidance Notes

Workplace Exposure Limits EH40. CHIP for everyone HSG(108). Introduction to Local Exhaust Ventilation HS(G)37.

EU Legislation

Dangerous Substance Directive 67/548/EEC. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

15.2. Chemical Safety Assessment

SECTION 16: OTHER INFORMATION

Revision Comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Issued By	HS&E Manager.
Revision	2
Supersedes date	13/04/2011
Safety Data Sheet Status	Approved.
Date	JAN 2013

Risk Phrases In Full

R22	Harmful if swallowed.
R61	May cause harm to the unborn child.
R60	May impair fertility.

Hazard Statements In Full

H302	Harmful if swallowed.
H360FD	May damage fertility or the unborn child.