GSB Chemical Co.

Chemwatch: 21-9600 Version No: 4.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 1

Issue Date: 09/07/2014 Print Date: 30/10/2015 Initial Date: Not Available S.GHS.AUS.EN

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

Product Identifier

Product name	Aquacoat 300 Sealer		
Synonyms	W35 Sealer Coating		
Other means of identification	Not Available		
Relevant identified uses of the substance or mixture and uses advised against			
	Use according to manufacturer's directions.		

Details of the supplier of the safety data sheet

Registered company name	3 Chemical Co.			
Address	84 Camp Road Broadmeadows 3047 VIC Australia			
Telephone	+61 3 9457 1125 (8am-5pm, Monday - Friday)			
Fax	+61 3 9459 7978			
Website	Not Available			
Email	info@gsbchem.com.au			

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	+61 3 9457 1125 (8am-5pm, Monday - Friday)
Other emergency telephone numbers	13 11 26 (After hours)

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

NON-HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the Model WHS Regulations and the ADG Code.

Poisons Schedule	Not Applicable					
GHS Classification [1]	Acute Aquatic Hazard Category 3					
Legend:	1. Classified by Chernwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI					
Label elements						
GHS label elements	Not Applicable					
SIGNAL WORD	NOT APPLICABLE					
Hazard statement(s)						
H402	Harmful to aquatic life					
Precautionary statement(s)) Prevention					
P273	Avoid release to the environment.					
Precautionary statement(s) Not Applicable) Response					
Precautionary statement(s)) Storage					
Not Applicable						
Precautionary statement(s) Disposal					
P501	Dispose of contents/container in accordance with local regulations.					

Continued...

Aquacoat 300 Sealer

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name	
Not Available	30-60	polymer emulsions	
Not Available	10-<30	acrylic resin solution	
Not Available	1-10	aqueous wax dispersion	
83730-60-3	1-10	dipropylene glycol monomethyl ether	
Not Available	1-<10	long chain poly glycol compounds	
Not Available	1-<5	long chain aryl surfactant	
67-63-0	<5	isopropanol	
7664-41-7	<1	ammonia anhydrous liquefied	
Not Available	NotSpec.	ingredients determined not to be hazardous	
Not Available	balance	ingredients determined not to be hazardous	

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	 If this product comes in contact with the eyes: Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	 If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.
Ingestion	 If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.

Indication of any immediate medical attention and special treatment needed

For acute or short term repeated exposures to ammonia and its solutions:

- Mild to moderate inhalation exposures produce headache, cough, bronchospasm, nausea, vomiting, pharyngeal and retrosternal pain and conjunctivitis. Severe inhalation produces
- laryngospasm, signs of upper airway obstruction (stridor, hoarseness, difficulty in speaking) and, in excessively, high doses, pulmonary oedema.
- Warm humidified air may soothe bronchial irritation.
- Test all patients with conjunctival irritation for corneal abrasion (fluorescein stain, slit lamp exam)
- Dyspneic patients should receive a chest X-ray and arterial blood gases to detect pulmonary oedema.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- ▶ Water spray or fog.
- Alcohol stable foam.
- Dry chemical powder.
- Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	► Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
Advice for firefighters	
Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use water delivered as a fine spray to control fire and cool adjacent area. Avoid spraying water onto liquid pools. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire.
Fire/Explosion Hazard	 Combustible. Slight fire hazard when exposed to heat or flame. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO). May emit acrid smoke.

 Mists containing combustible materials may be explosive. Combustion products include; carbon dioxide (CO2) nitrogen oxides (NOx) other pyrolysis products typical of burning organic materialMay emit poisonous

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

 Remove all ignition sources.
 Cean up all spills immediately.

Minor Spills	 Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal.
Major Spills	 Moderate hazard. Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water course. No smoking, naked lights or ignition sources. Increase ventilation. Stop leak if safe to do so. Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite. Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains. If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Precautions for safe handl	ing
Safe handling	 DO NOT allow clothing wet with material to stay in contact with skin The tendency of many ethers to form explosive peroxides is well documented. Ethers lacking non-methyl hydrogen atoms adjacent to the ether link are thought to be relatively safe DO NOT concentrate by evaporation, or evaporate extracts to dryness, as residues may contain explosive peroxides with DETONATION potential. Any static discharge is also a source of hazard. Before any distillation process remove trace peroxides by shaking with excess 5% aqueous ferrous sulfate solution or by percolation through a column of activated alumina. Distillation results in uninhibite ether distillate with considerably increased hazard because of risk of peroxide formation on storage. Add inhibitor to any distillate as required. When solvents have been freed from peroxides by percolation through columns of activated alumina, the absorbed peroxides must promptly be desorbed by treatment with polar solvents such as methanol or water, which should then be disposed of safely. Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. Avoid ontact with incompatible materials. When handling, DO NOT est, dirtik or smoke. Keep containers securely sealed when not in use. Avoid contact with incompatible materials. Work clothes should be landered separately. Work clothes should be landered separately. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.
Other information	 Store in original containers. Keep containers securely sealed. No smoking, naked lights or ignition sources. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.
Conditions for safe storag	e, including any incompatibilities
Suitable container	 Metal can or drum Packaging as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	 Avoid reaction with oxidising agents Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

INGREDIENT DATA

INGREDIENT DATA								
Source	Ingredient	Material name		TWA	;	STEL	Peak	Notes
Australia Exposure Standards	dipropylene glycol monomethyl ether	(2-Methoxymethylethoxy propanol)	308 mg/m3 / 50 ppm		Not Available	Not Available	Sk
Australia Exposure Standards	isopropanol	Isopropyl alcohol		983 mg/m3 / 400 ppm		1230 mg/m3 / 500 opm	Not Available	Not Available
Australia Exposure Standards	ammonia anhydrous liquefied	Ammonia 1		17 mg/m3 / 25 ppm	2	24 mg/m3 / 35 ppm	Not Available	Not Available
EMERGENCY LIMITS								
Ingredient	Material name		TEEL-1		TEE	EL-2	TEEL-3	
dipropylene glycol monomethyl ether	Dipropylene glycol methyl ether	lipropylene glycol methyl ether		150 ppm		ppm	510 ppm	
isopropanol	Isopropyl alcohol		400 ppm	400 ppm 4		ppm	12000 ppm	
ammonia anhydrous liquefied	Ammonia		Not Avai	lable	Not	Not Available Not Available		le
Ingredient	Original IDLH				Revised IDLH			
polymer emulsions	Not Available			Not Available				
acrylic resin solution	Not Available			Not Available				
aqueous wax dispersion	Not Available				Not Available			
dipropylene glycol monomethyl ether	Unknown mg/m3 / Unknown ppm				600 ppm			
long chain poly glycol compounds	Not Available			Not Available				
long chain aryl surfactant	Not Available					Not Available		
isopropanol	12,000 ppm	12,000 ppm				2,000 [LEL] ppm		
ammonia anhydrous liquefied	500 ppm			300 ppm				
ingredients determined not to be hazardous	Not Available				Not Available			
ingredients determined not to be hazardous	Not Available				Not Available			

Exposure controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure. General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant. Type of Contaminant: Air Speed: 0.25-0.5 m/s (50-100 solvent, vapours, degreasing etc., evaporating from tank (in still air). f/min) aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating 0.5-1 m/s (100-200 acid fumes, pickling (released at low velocity into zone of active generation) f/min.) Appropriate engineering controls direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into 1-2.5 m/s (200-500 zone of rapid air motion) f/min.) grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid 2.5-10 m/s (500-2000 f/min.) air motion) Within each range the appropriate value depends on: Lower end of the range Upper end of the range 1: Room air currents minimal or favourable to capture 1: Disturbing room air currents 2: Contaminants of low toxicity or of nuisance value only. 2: Contaminants of high toxicity 3: Intermittent, low production. 3: High production, heavy use 4: Large hood or large air mass in motion 4: Small hood-local control only Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Page 5 of 9

Aquacoat 300 Sealer

Personal protection	
Eye and face protection	 Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]
Skin protection	See Hand protection below
Hands/feet protection	 Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: frequency and duration of contact, chemical resistance of glove material, glove thickness and desterity Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. Contaminated gloves should be replaced.
Body protection	See Other protection below
Other protection	 Overalls. P.V.C. apron. Barrier cream. Skin cleansing cream. Eye wash unit.
Thermal hazards	Not Available

Respiratory protection

Not Available

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	White viscous liquid with a mild ammonia odour; miscible with water.						
Physical state	#00Liquid	Relative density (Water = 1)	Not Available				
Odour	Not Available	Partition coefficient n-octanol / water	Not Available				
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available				
pH (as supplied)	Not Available	Decomposition temperature	Not Available				
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available				
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable				
Flash point (°C)	Not Available	Taste	Not Available				
Evaporation rate	Not Available	Explosive properties	Not Available				
Flammability	Not Available	Oxidising properties	Not Available				
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available				
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available				
Vapour pressure (kPa)	Not Available	Gas group	Not Available				
Solubility in water (g/L)	#01miscible	pH as a solution (1%)	Not Available				
Vapour density (Air = 1)	Not Available	VOC g/L Not Available					

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5
SECTION 11 TOXICOLOG	GICAL INFORMATION
Information on toxicologic	cal effects
Inhaled	There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

	lung damage.	
Ingestion	Accidental ingestion of the material may be damaging to the health	h of the individual.
Skin Contact	Skin contact with the material may damage the health of the individed There is some evidence to suggest that this material can cause in Open cuts, abraded or irritated skin should not be exposed to this	flammation of the skin on contact in some persons.
Eye	There is some evidence to suggest that this material can cause e	ye irritation and damage in some persons.
Chronic	Substance accumulation, in the human body, may occur and may of DMPE causes few adverse effects, although it has caused decreat Prolonged or repeated minor exposure to ammonia gas/vapour minor prolonged contact may produce dermatitis, and conjunctivitis. Other effects may include ulcerative changes to the mouth and bring the toterance. In animals, repeated exposures to sub-lethal lefe 675 ppm for several weeks produced eye irritation in dogs and rability evident in rabbits. Long term or repeated ingestion exposure of isopropanol may produce narcos exposure levels that produce toxic effects in the adult animals. Iso animals. There are inconclusive reports of human sensitisation from skin care persons who do not consume alcohol; alcoholics have survived Continued voluntary drinking of a 2.5% aqueous solution through in NOTE: Commercial isopropanol does not contain "isopropyl oil". Change include use of dilute sulfuric acid at higher temperatures.	ay cause long-term irritation to the eyes, nose and upper respiratory tract. Repeated exposure onchial and gastrointestinal disturbances. Adaptation to usually irritating concentrations may vels produces adverse effects on the respiratory tract, liver, kidneys and spleen. Exposure at bits; corneal opacity, covering between a quarter to one half of the total surface area, was duce incoordination, lethargy and reduced weight gain. is, incoordination and liver degeneration. Animal data show developmental effects only at propanol does not cause genetic damage in bacterial or mammalian cell cultures or in ontact with isopropanol. Chronic alcoholics are more tolerant of systemic isopropanol than
Aquacoat 300 Sealer	TOXICITY Not Available	IRRITATION Not Available
polymer emulsions	TOXICITY Not Available	IRRITATION Not Available
acrylic resin solution	TOXICITY Not Available	IRRITATION Not Available
aqueous wax dispersion	TOXICITY Not Available	IRRITATION Not Available
dipropylene glycol monomethyl ether	TOXICITY dermal (rat) LD50: >19000 mg/kg ^[1] Oral (rat) LD50: 5130 mg/kg ^[1] Oral (rat) LD50: 5135 mg/kgd ^[2]	IRRITATION Eye (human): 8 mg - mild Eye (rabbit): 500 mg/24hr - mild Skin (rabbit): 238 mg - mild Skin (rabbit): 500 mg (open)-mild
long chain poly glycol compounds	TOXICITY Not Available	IRRITATION Not Available
long chain aryl surfactant	TOXICITY Not Available	IRRITATION Not Available

	ΤΟΧΙCΙΤΥ	IRRITATIO	NI .	
	Dermal (rabbit) LD50: 12792 mg/kg ^[1]): 10 mg - moderate	
isopropanol	Inhalation (rat) LC50: 72.6 mg/L/4h ^[2]	Eye (rabbit	Eye (rabbit): 100 mg - SEVERE	
	Oral (rat) LD50: 5000 mg/kg ^[2]	Eye (rabbit	Eye (rabbit): 100mg/24hr-moderate	
		Skin (rabbi	t): 500 mg - mild	
	TOXICITY	IRRITATIO	N	
	dermal (rat) LD50: 4.84 mg/L/60M ^[2]	Nil reporte	d	
ammonia anhydrous liquefied	Inhalation (rat) LC50: 2000 ppm/4H ^[2]			
iqueneu	Inhalation (rat) LC50: 9500 ppm/1H ^[2]			
	Oral (rat) LD50: 350 mg/kg ^[1]			
ingredients determined not to be hazardous	TOXICITY	IRRITATIO	N	
	Not Available	Not Availab	ole	
ingredients determined not	ΤΟΧΙΟΙΤΥ	IRRITATIO	N	
to be hazardous	Not Available	Not Availab	le	
Legend:	1. Value obtained from Europe ECHA Registered Substa extracted from RTECS - Register of Toxic Effect of chem		ned from manufacturer's SDS. Unless otherwise specified data	
Acute Toxicity	0	Carcinogenic	ity 🛇	
Skin Irritation/Corrosion	0	Reproductivi	ty 🛇	
Serious Eye Damage/Irritation	0	STOT - Single Exposu	re 🛇	
	0	STOT - Repeated Exposu	re 🛇	
Respiratory or Skin sensitisation	0			

S - Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Ingredient	Endpoint	Test Duration	Species	Value	Source
dipropylene glycol monomethyl ether	LC50	96	Fish	1307.253mg/L	3
dipropylene glycol monomethyl ether	EC50	96	Algae or other aquatic plants	8843.203mg/L	3
dipropylene glycol monomethyl ether	LC50	96	Fish	>1000mg/L	2
dipropylene glycol monomethyl ether	EC50	96	Algae or other aquatic plants	>969mg/L	2
isopropanol	LC50	96	Fish	183.8440mg/L	3
isopropanol	EC50	48	Crustacea	125000mg/L	5
isopropanol	EC50	96	Algae or other aquatic plants	993.2320mg/L	3
isopropanol	EC0	24	Crustacea	>=10000mg/L	1
isopropanol	EC10	24	Algae or other aquatic plants	680mg/L	4
isopropanol	EC100	24	Crustacea	>100000mg/L	1
isopropanol	EC29	504	Crustacea	100mg/L	1
isopropanol	EC90	96	Algae or other aquatic plants	>10000mg/L	1
ammonia anhydrous liquefied	LC50	96	Fish	0.0680mg/L	2
ammonia anhydrous liquefied	EC50	48	Crustacea	0.1790mg/L	5
ammonia anhydrous liquefied	EC50	96	Algae or other aquatic plants	311.6610mg/L	3

Harmful to aquatic organisms.

For Propylene Glycol Ethers: log Kow's range from 0.309 for TPM to 1.523 for DPnB. Calculated BCFs range from 1.47 for DPnB to 3.16 for DPMA and TPM, indicating low bioaccumulation. Henry's Law Constants are low for all category members, ranging from 5.7 x 10-9 atm-m3/mole for TPM to 2.7 x10-9 atm-m3/mole for PnB. Environmental Fate: Most are liquids at room temperature and all are water-soluble.

Atmospheric Fate: In air, the half-life due to direct reactions with photochemically generated hydroxyl radicals, range from 2.0 hours for TPM to 4.6 hours for PnB. Aquatic/Terrestrial Fate: Most propylene glycol ethers are likely to partition roughly equally into the soil and water compartments in the environment with small to negligible amounts remaining in other environmental compartments (air, sediment, and aquatic biota). In water, most members of this family are "readily biodegradable" under aerobic conditions. In soil, biodegradation is rapid for PM and PM

PM and PMA.

For Ammonia

Aquacoat 300 Sealer

Ecotoxicity: Propylene glycol ethers are unlikely to persist in the environment. Acute aquatic toxicity testing indicates low toxicity for both ethers and acetates. For Glycol Ethers:

Environmental Fate: Several glycol ethers have been shown to biodegrade however; biodegradation slows as molecular weight increases. No glycol ethers that have been tested demonstrate marked resistance to biodegradative processes. No glycol ethers that have been tested demonstrate marked resistance to biodegradative processes.

Atmospheric Fate: Upon release to the atmosphere by evaporation, high boiling glycol ethers are estimated to undergo photo-degradation (atmospheric half lives = 2.4-2.5 hr). Aquatic Fate: In water, glycol ethers undergo biodegradation (typically 47-92% after 8-21 days) and have a low potential for bioaccumulation (log Kow ranges from -1.73 to +0.51).

Ecotoxicity: Tri- and tetra ethylene glycol ethers are "practically non-toxic" to aquatic species. No major differences are observed in the order of toxicity going from the methyl- to the butyl ethers. Glycols exert a high oxygen demand for decomposition and once released to the environment death of aquatic organisms occurs if dissolved oxygen is depleted.

Atmospheric Fate: Ammonia reacts rapidly with available acids (mainly sulfuric, nitric, and sometimes hydrochloric acid) to form the corresponding salts. Ammonia is persistent in the air.

Aquatic Fate: Biodegrades rapidly to nitrate, producing a high oxygen demand. Non-persistent in water (half-life 2 days).

Ecotoxicity: Moderately toxic to fish under normal temperature and pH conditions and harmful to aquatic life at low concentrations. Does not concentrate in food chain.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
dipropylene glycol monomethyl ether	HIGH	HIGH
isopropanol	LOW (Half-life = 14 days)	LOW (Half-life = 3 days)
ammonia anhydrous liquefied	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
dipropylene glycol monomethyl ether	LOW (BCF = 100)
isopropanol	LOW (LogKOW = 0.05)
ammonia anhydrous liquefied	LOW (LogKOW = 0.229)

Mobility in soil

Ingredient	Mobility
dipropylene glycol monomethyl ether	LOW (KOC = 10)
isopropanol	HIGH (KOC = 1.06)
ammonia anhydrous liquefied	LOW (KOC = 14.3)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some
	areas, certain wastes must be tracked.
	A Hierarchy of Controls seems to be common - the user should investigate:
	▶ Reduction
	▶ Reuse
	▶ Recycling
	Disposal (if all else fails)
	This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be
Product / Packaging	possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type.
disposal	Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.
	DO NOT allow wash water from cleaning or process equipment to enter drains.
	It may be necessary to collect all wash water for treatment before disposal.
	In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
	Where in doubt contact the responsible authority.
	Recycle wherever possible or consult manufacturer for recycling options.
	Consult State Land Waste Authority for disposal
	Constant Gale Latar waster Administration diagostal. Bury or incinerate residue at an approved site.
	 Recycle containers if possible, or dispose of in an authorised landfill.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

SECTION 15 REGULATORY INFORMATION

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

Not Applicable

Not Applicable

Not Applicable DIPROPYLENE GLYCOL MONOMETHYL ETHER(83730-60-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS Australia Inventory of Chemical Substances (AICS) Australia Exposure Standards Australia Hazardous Substances Information System - Consolidated Lists Not Applicable Not Applicable ISOPROPANOL(67-63-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS Australia Exposure Standards Australia Inventory of Chemical Substances (AICS) Australia Hazardous Substances Information System - Consolidated Lists International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs AMMONIA ANHYDROUS LIQUEFIED(7664-41-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS Australia Exposure Standards Australia Inventory of Chemical Substances (AICS) Australia Hazardous Substances Information System - Consolidated Lists International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft Not Applicable Not Applicable National Inventory Status Australia - AICS Y

Canada - DSL	Υ
Canada - NDSL	N (dipropylene glycol monomethyl ether; ammonia anhydrous liquefied; isopropanol)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Υ
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Υ
USA - TSCA	Y
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Other information

Ingredients with multiple cas numbers

Name CAS No	No
dipropylene glycol monomethyl ether 104512-	2-57-4, 112-28-7, 112388-78-0, 12002-25-4, 13429-07-7, 13588-28-8, 20324-32-7, 34590-94-8, 55956-21-3, 83730-60-3

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC-TWA: Permissible Concentration-Time Weighted Average PC-STEL: Permissible Concentration-Short Term Exposure Limit IARC: International Agency for Research on Cancer ACGIH: American Conference of Governmental Industrial Hygienists STEL: Short Term Exposure Limit TEEL: Temporary Emergency Exposure Limit. IDLH: Immediately Dangerous to Life or Health Concentrations OSF: Odour Safety Factor NOAEL :No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level TLV: Threshold Limit Value LOD: Limit Of Detection OTV: Odour Threshold Value BCF: BioConcentration Factors **BEI: Biological Exposure Index**