

# Bulk Blendz Hot Stripper Bulkwholesale Australia Pty Ltd Chemwatch: 5498-22

Version No: 2.1

Chemwatch Hazard Alert Code: 4

lssue Date: **12/10/2021** Print Date: **10/06/2022** S.GHS.AUS.EN

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

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Product Identifier	
Product name	Bulk Blendz Hot Stripper
Chemical Name	Not Applicable
Synonyms	Not Available
Proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S. (contains ammonium fluoride and hydrochloric acid)
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses Use according to manufacturer's directions.

#### Details of the supplier of the safety data sheet

••	•
Registered company name	Bulkwholesale Australia Pty Ltd
Address	2/7 Commercial Court, Tullamarine VIC 3043 Australia
Telephone	1300 096 435
Fax	
Website	https://www.bulkwholesale.com.au
Email	orders@bulkwholesale.com.au

#### Emergency telephone number

Association / Organisation	NV Chemicals	CHEMWATCH EMERGENCY RESPONSE
Emergency telephone numbers	0411 387 097	+61 1800 951 288
Other emergency telephone numbers	Not Available	+61 3 9573 3188

Once connected and if the message is not in your prefered language then please dial 01

## **SECTION 2 Hazards identification**

#### Classification of the substance or mixture

Poisons Schedule	Not Applicable	
Classification <sup>[1]</sup>	Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 1A, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity (Inhalation) Category 3, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Hazardous to the Aquatic Environment Long-Term Hazard Category 3	
Legend:	1. Classified by Chernwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI	

## Label elements

Hazard	pictogram(s)



# Hazard statement(s)

AUH019	May form explosive peroxides.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

### Precautionary statement(s) Prevention

P260	Do not breathe mist/vapours/spray.	
P264	Wash all exposed external body areas thoroughly after handling.	
P271	Use only outdoors or in a well-ventilated area.	
P280	Wear protective gloves, protective clothing, eye protection and face protection.	

#### Precautionary statement(s) Response

P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.	
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].	
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
P310	Immediately call a POISON CENTER/doctor/physician/first aider.	

## Precautionary statement(s) Storage

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

# Precautionary statement(s) Disposal

P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

Not Applicable

# **SECTION 3** Composition / information on ingredients

#### Substances

See section below for composition of Mixtures

## Mixtures

CAS No	%[weight]	Name
7647-01-0	>20	hydrochloric acid
6540-99-4	>10	lauryl alcohol, ethoxylated
34590-94-8	>10	dipropylene glycol monomethyl ether
12125-01-8	>10	ammonium fluoride
7732-18-5	balance	water
Legend:	1. Classified by Chemwatch; 2. Classi Classification drawn from C&L * EU I	fication drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. DELVs available

## **SECTION 4 First aid measures**

Description of first aid measures		
Eye Contact	<ul> <li>If this product comes in contact with the eyes:</li> <li>Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>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.</li> <li>Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>Transport to hospital or doctor without delay.</li> <li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>	
Skin Contact	If there is evidence of severe skin irritation or skin burns:  Avoid further contact. Immediately remove contaminated clothing, including footwear.  Flush skin under running water for 15 minutes.  Avoiding contamination of the hands, massage calcium gluconate gel into affected areas, pay particular attention to creases in skin.  Contact the Poisons Information Centre.  Continue gel application for at least 15 minutes after burning sensation ceases.  If pain recurs, repeat application of calcium gluconate gel or apply every 20 minutes.  If no gel is available, continue washing for at least 15 minutes, using soap if available. If patient is conscious, give six calcium gluconate or calcium carbonate tablets in water by mouth.  Transport to hospital, or doctor, urgently.	
Inhalation	<ul> <li>If fumes or combustion products are inhaled remove from contaminated area.</li> <li>Lay patient down. Keep warm and rested.</li> <li>Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained.</li> </ul>	

	Perform CPR if necessary.
	Transport to hospital, or doctor, without delay.
	For massive exposures:
	If dusts, vapours, aerosols, fumes or combustion products are inhaled, remove from contaminated area.
	▶ Lay patient down.
	▶ Keep warm and rested.
	Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
	Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained.
	Perform CPR if necessary.
	If victim is conscious, give six calcium gluconate or calcium carbonate tablets in water by mouth.
	Transport to hospital, or doctor, urgently.
	For advice, contact a Poisons Information Centre or a doctor at once.
	Urgent hospital treatment is likely to be needed.
	If swallowed do NOT induce vomiting.
Ingestion	• If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
ingestion	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.
	Transport to hospital or doctor without delay.

#### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

For acute or short term repeated exposures to strong acids:

Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.

- \* Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.

• Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues. INGESTION:

Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.

DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.

- Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- Charcoal has no place in acid management.
- Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.

Deep second-degree burns may benefit from topical silver sulfadiazine EYE:

- Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjuctival cul-de-sacs. Irrigation should last at least 20-30 minutes. DO NOT use neutralising agents or any other additives. Several litres of saline are required.
- Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
- Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

#### [Ellenhorn and Barceloux: Medical Toxicology]

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.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).

#### 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	<ul> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Wear full body protective clothing with breathing apparatus.</li> <li>Prevent, by any means available, spillage from entering drains or water course.</li> <li>Use fire fighting procedures suitable for surrounding area.</li> </ul>
Fire/Explosion Hazard	<ul> <li>Non combustible.</li> <li>Not considered to be a significant fire risk.</li> <li>Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.</li> <li>Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>carbon dioxide (CO2)</li> <li>hydrogen chloride</li> <li>phosgene</li> <li>hydrogen fluoride</li> <li>nitrogen oxides (NOx)</li> <li>other pyrolysis products typical of burning organic material.</li> </ul>
HAZCHEM	2X

#### **SECTION 6 Accidental release measures**

# Personal precautions, protective equipment and emergency procedures

See section 8

#### **Environmental precautions**

See section 12

## Methods and material for containment and cleaning up

Minor Spills	<ul> <li>Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.</li> <li>Check regularly for spills and leaks.</li> <li>Clean up all spills immediately.</li> <li>Avoid breathing vapours and contact with skin and eyes.</li> <li>Control personal contact with the substance, by using protective equipment.</li> <li>Contain and absorb spill with sand, earth, inert material or vermiculite.</li> </ul>
Major Spills	<ul> <li>Clear area of personnel and move upwind.</li> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>May be violently or explosively reactive.</li> <li>Wear full body protective clothing with breathing apparatus.</li> </ul>

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

# **SECTION 7 Handling and storage**

Precautions for safe handling	
Safe handling	<ul> <li>DO NOT allow clothing wet with material to stay in contact with skin</li> <li>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</li> <li>DO NOT concentrate by evaporation, or evaporate extracts to dryness, as residues may contain explosive peroxides with DETONATION potential.</li> <li>Any static discharge is also a source of hazard.</li> <li>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.</li> <li>Avoid all personal contact, including inhalation.</li> <li>Wear protective clothing when risk of exposure occurs.</li> <li>Use in a well-ventilated area.</li> <li>WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.</li> </ul>
Other information	<ul> <li>Store in original containers.</li> <li>Keep containers securely sealed.</li> <li>No smoking, naked lights or ignition sources.</li> <li>Store in a cool, dry, well-ventilated area.</li> </ul>

## Conditions for safe storage, including any incompatibilities

Suitable container	<ul> <li>20Lt/5Lt.</li> <li>DO NOT use aluminium or galvanised containers</li> <li>Check regularly for spills and leaks</li> <li>For low viscosity materials</li> <li>Drums and jerricans must be of the non-removable head type.</li> <li>Where a can is to be used as an inner package, the can must have a screwed enclosure.</li> <li>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):</li> <li>Removable head packaging;</li> <li>Cans with friction closures and</li> <li>low pressure tubes and cartridges</li> <li>may be used.</li> <li>Polyethylene or polypropylene container.</li> <li>Packing as recommended by manufacturer.</li> <li>Check all containers are clearly labelled and free from leaks.</li> </ul>
Storage incompatibility	<ul> <li>Inorganic acids are generally soluble in water with the release of hydrogen ions. The resulting solutions have pH's of less than 7.0.</li> <li>Inorganic acids neutralise chemical bases (for example: amines and inorganic hydroxides) to form salts - neutralisation can generate dangerously large amounts of heat in small spaces.</li> <li>The dissolution of inorganic acids in water or the dilution of their concentrated solutions with additional water may generate significant heat.</li> <li>Hydrogen chloride:         <ul> <li>reacts strongly with strong oxidisers (releasing chlorine gas), acetic anhydride, caesium cyanotridecahydrodecaborate(2-), ethylidene difluoride, hexalithium disilicide, metal acetylide, sodium, silicon dioxide, tetraselenium tetranitride, and many organic materials</li> <li>is incompatible with alkaline materials, acetic anhydride, acetylides, aliphatic amines, alkanolamines, alkylene oxides, clauminium, titanium alloys, aromatic amines, amines, amides, 2-aminoethanol, ammonia, ammonium hydroxide, borides, caclaium phosphide, carbides, carbioates, cyanides, chlorosulfonic acid, ethylenediamine, ethyleneimine, epichlorohydrin, formaldehyde, isocyanates, metals, metal oxides, metal acetylides, metal acetylides, netal carbides, oleum, organic andydride, vinyl acetate, vinylidene fluoride</li> <li>attacks most metals forming flammable hydrogen gas, and some plastics, rubbers and coatings</li> <li>reacts with zinc, brass, galvanised iron, aluminium, copper and copper alloys</li> </ul> </li> <li>Contact with acids produces toxic fumes</li> <li>Reacts vigorously with alkalis</li> <li>Reacts vigorously with alkalis</li> <li>Reacts vigorously with alkalis</li> <li>reacts violently with strong oxidisers, permanganates, peroxides, ammonium persulfate, bromine dioxide, sulfuric acid, nitric acid, perchloric acid, and other strong oxidis</li> <li>reacts violently with storig oxidisers, permanganates,</li></ul>

in processes such as distillation where they are concentrated or even evaporated to near-dryness or dryness; storage under a nitrogen
atmosphere is recommended to minimise the possible formation of highly reactive peroxides
Nitrogen blanketing is recommended if transported in containers at temperatures within 15 deg C of the flash-point and at or above the
flash-point - large containers may first need to be purged and inerted with nitrogen prior to loading
In the presence of strong bases or the salts of strong bases, at elevated temperatures, the potential exists for runaway reactions.
Contact with aluminium should be avoided; release of hydrogen gas may result- glycol ethers will corrode scratched aluminium surfaces.
May discolour in mild steel/ copper; lined containers, glass or stainless steel is preferred
• Glycols and their ethers undergo violent decomposition in contact with 70% perchloric acid. This seems likely to involve formation of the
glycol perchlorate esters (after scission of ethers) which are explosive, those of ethylene glycol and 3-chloro-1,2-propanediol being more
powerful than glyceryl nitrate, and the former so sensitive that it explodes on addition of water .
Segregate from alkalies, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.
Avoid reaction with oxidising agents, bases and strong reducing agents.
Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.

# SECTION 8 Exposure controls / personal protection

#### **Control parameters**

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	hydrochloric acid	Hydrogen chloride	Not Available	Not Available	5 ppm / 7.5 mg/m3	Not Available
Australia Exposure Standards	dipropylene glycol monomethyl ether	(2-Methoxymethylethoxy) propanol	50 ppm / 308 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	ammonium fluoride	Fluorides (as F)	2.5 mg/m3	Not Available	Not Available	Not Available

Emergency Limits					
Ingredient	TEEL-1	TEEL-2		TEEL-3	
hydrochloric acid	Not Available	Not Available		Not Available	
hydrochloric acid	1.8 ppm	22 ppm		100 ppm	
lauryl alcohol, ethoxylated	2.9 mg/m3	31 mg/m3		200 mg/m3	
dipropylene glycol monomethyl ether	150 ppm	1700* ppm		9900** ppm	
ammonium fluoride	15 mg/m3	160 mg/m3		980 mg/m3	
Ingredient	Original IDLH		Revised IDLH	Revised IDLH	
hydrochloric acid	50 ppm	50 ppm		Not Available	
lauryl alcohol, ethoxylated	Not Available		Not Available		
dipropylene glycol monomethyl ether	600 ppm		Not Available		
ammonium fluoride	Not Available		Not Available		
water	Not Available		Not Available		

Occupational Exposure Banding					
Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit			
lauryl alcohol, ethoxylated	E	≤ 0.1 ppm			
Notes:	Occupational exposure banding is a process of assigning chemicals into s adverse health outcomes associated with exposure. The output of this pro range of exposure concentrations that are expected to protect worker hea	pecific categories or bands based on a chemical's potency and the cess is an occupational exposure band (OEB), which corresponds to a th.			

#### Exposure controls

Appropriate engineering 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.
Personal protection	
Eye and face protection	<ul> <li>Safety glasses with side shields.</li> <li>Chemical goggles.</li> <li>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.</li> </ul>
Skin protection	See Hand protection below
Hands/feet protection	<ul> <li>Elbow length PVC gloves</li> <li>When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.</li> <li>NOTE:</li> <li>The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li> </ul>

	Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. 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. Personal hygiene is a key element of effective hand care.
Body protection	See Other protection below
Other protection	<ul> <li>Overalls.</li> <li>PVC Apron.</li> <li>PVC protective suit may be required if exposure severe.</li> <li>Everyash unit</li> </ul>

#### Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the computergenerated selection:

NV H

Material	CPI
NEOPRENE	А
BUTYL	С
BUTYL/NEOPRENE	С
HYPALON	С
NAT+NEOPR+NITRILE	С
NATURAL RUBBER	С
NATURAL+NEOPRENE	С
NEOPRENE/NATURAL	С
NITRILE	С
NITRILE+PVC	С
PE/EVAL/PE	С
PVA	С
PVC	С
SARANEX-23	С
VITON	С
VITON/NEOPRENE	С

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

### **SECTION 9** Physical and chemical properties

#### Information on basic physical and chemical properties

Appearance	Clear liquid.		
Physical state	Liquid	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 Available
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

**Respiratory protection** 

Type AB-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AB-AUS P2	-	AB-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AB-AUS / Class 1 P2	-
up to 100 x ES	-	AB-2 P2	AB-PAPR-2 P2 ^

## ^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

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Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Not Available	pH as a solution (Not Available%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	197.96

# **SECTION 10 Stability and reactivity**

Reactivity	See section 7
Chemical stability	<ul> <li>Contact with alkaline material liberates heat</li> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> </ul>
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 Toxicological information**

## Information on toxicological effects

Inhaled	There is strong evidence to suggest that this material can cause, if inhaled once, very serious, irreversible damage of organs. The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea and weakness. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. Hydrogen chloride (HCI) vapour or fumes present a hazard from a single acute exposure. Exposures of 1300 to 2000 ppm have been lethal to humans in a few minutes. Inhalation of HCI may cause choking, coughing, burning sensation and may cause ulceration of the nose, throat and larynx. Fluid on the lungs followed by generalised lung damage may follow. Dipropylene glycol monomethyl ether (DPME) may cause drowsiness from which rapid recovery occurs, and in few cases brain and nerves impairment. The highly irritant properties of ammonia vapour result as the gas dissolves in mucous fluids and forms irritant, even corrosive solutions. Inhalation of the ammonia fumes causes coughing, vomiting, reddening of lips, mouth, nose, throat and conjunctiva while higher concentrations can cause temporary blindness, restlessness, tightness in the chest, pulmonary oedema (lung damage), weak pulse and cyanosis. Inhalation of high concentrations of vapour may cause death due to asphyxiation (suffocation) or fluid in the lungs. Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce severely toxic effects; these may be fatal.
Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. There is strong evidence to suggest that this material can cause, if swallowed once, very serious, irreversible damage of organs. Ingestion of acidic corrosives may produce burns around and in the mouth, the throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident. Dipropylene monomethyl ether (DPME) produces marked central nervous system depression in rats. Lethal doses produced failure of breathing within 48 hours.
Skin Contact	Skin contact with the material may be harmful; systemic effects may result following absorption. There is strong evidence to suggest that this material, on a single contact with skin, can cause very serious, irreversible damage of organs. Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue. Fluorides are easily absorbed through the skin and cause death of soft tissue and erode bone. Healing is delayed and death of tissue may continue to spread beneath skin. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. Continuous skin contact with DPME may cause scaly skin. Testing on animals has shown that absorption through the skin may cause drowsiness, stomach distension and irritation as well as kidney damage, and high doses may be lethal.
Eye	Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely. If applied to the eyes, this material causes severe eye damage. Irritation of the eyes may produce a heavy secretion of tears (lachrymation). Undiluted dipropylene glycol monomethyl ether (DPME) may cause eye irritation with redness, pain and sometimes physical injury. These are reversible and there is no permanent damage.
Chronic	Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs. Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Some glycol esters and their ethers cause wasting of the testicles, reproductive changes, infertility and changes to kidney function. Shorter chain compounds are more dangerous. Chronic minor exposure to hydrogen chloride (HCI) vapour or fume may cause discolouration or erosion of the teeth, bleeding of the nose and gums; and ulceration of the mucous membranes of the nose. Workers exposed to hydrochloric acid suffered from stomach inflammation and a number of cases of chronic bronchitis (airway inflammation) have also been reported. Repeated or prolonged exposure to dilute solutions of hydrogen chloride may cause skin inflammation.

	DMPE causes few adverse effects, although it has caused decreased consciousness in animal testing. It has an unpleasant odour. Prolonged or repeated skin contact may cause degreasing, followed by drying, cracking and skin inflammation.		
	τοχιςιτγ	IRRITATION	
NV Hot Stripper	Not Available	Not Available	
	тохісіту	IRRITATION	
	dermal (mouse) LD50: 1449 mg/kg <sup>[2]</sup>	Eye (rabbit): 5mg/30s - mild	
hydrochloric acid	Oral (Rat) LD50; 900 mg/kg <sup>[2]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>	
-		Skin: adverse effect observed (corrosive) <sup>[1]</sup>	
		Skin: adverse effect observed (irritating) <sup>[1]</sup>	
	тохісіту	IRRITATION	
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye (rabbit): 0.75 mg/24h SEVERE	
	Oral (Rat) LD50: 1000 mg/kg <sup>[1]</sup>	Eve (rabbit): 100 mg	
auryl alcohol, ethoxylated		Eve: adverse effect observed (irritation) <sup>[1]</sup>	
auryr alconol, caloxylateu		Skin (rabbit): 500 mg/24b mild	
		Skin (rabbit): 300 mg/24n mild	
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>	
	ΤΟΧΙΟΙΤΥ	IRRITATION	
	Dermal (rabbit) LD50: 9500 mg/kg <sup>[2]</sup>	Eye (human): 8 mg - mild	
dipropylene glycol	Oral (Rat) LD50; 5135 mg/kg <sup>[2]</sup>	Eye (rabbit): 500 mg/24hr - mild	
monomentyretter		Skin (rabbit): 238 mg - mild	
		Skin (rabbit): 500 mg (open)-mild	
	τοχιςιτγ	IRRITATION	
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Not Available	
ammonium fluoride	Inhalation(Bat) LC50: 1 mg/l4h <sup>[1]</sup>		
	Oral (Rat) LD50; ~148.5 mg/kg <sup>[1]</sup>		
	ΤΟΧΙΟΙΤΥ	IRRITATION	
water	Oral (Rat) LD50; >90000 mg/kg <sup>[2]</sup>	Not Available	
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise		
	specified data extracted from RTECS - Register of Toxic I	Effect of chemical Substances	
HYDROCHLORIC ACID	For acid mists, aerosols, vapours Test results suggest that eukaryotic cells are susceptible for not been examined in this respect. Mucous secretion may protects the stomach lining from the hydrochloric acid sec The substance is classified by IARC as Group 3: <b>NOT</b> classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited	to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract ha y protect the cells of the airway from direct exposure to inhaled acidic mists (which a creted there). in animal testing.	
LAURYL ALCOHOL, ETHOXYLATED	Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complet mixtures of oxidation products. Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitisers. The oxidization products also cause irritation. Humans have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents and oth cleaning products. Exposure to these chemicals can occur through swallowing, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that relatively high volumes would have to occur to produce any toxic response. No death due to poisoning with alcohol ethoxylate has ever been reported. Both laboratory and animal testing has shown that there is no evidence for alcohol ethoxylates (AEs) causing genetic damage, mutations or cancer. No adverse reproductive or developmental effects were observed. Tri-ethylene glycol ethers undergo enzymatic oxidation to toxic alkoxy acids. They may irritate the skin and the eyes. At high oral doses, they m cause depressed reflexes, flaccid muscle tone, breathing difficulty and coma. Death may result in experimental animal. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis		
DIPROPYLENE GLYCOL MONOMETHYL ETHER	For propylene glycol ethers (PGEs): Typical propylene glycol ethers include propylene glycol n-butyl ether (PnB); dipropylene glycol n-butyl ether (DPnB); dipropylene glycol methyl ether acetate (DPMA) and tripropylene glycol methyl ether (TPM). Testing of a wide variety of propylene glycol ethers has shown that propylene glycol-based ethers are less toxic than some ethers of the ethylen series. The common toxicities associated with the lower molecular weight homologues of the ethylene series, such as adverse effects on the reproductive organs, the developing embryo and foetus, blood or thymus gland, are not seen with the commercial-grade propylene glycol ethers in the ethylene series, metabolism of the terminal hydroxyl group produces and alkoxyacetic acid. The reproductive and developmental toxicitie of the lower molecular weight homologues in the ethylene series are not associated with reproductive toxicity, but can cause haemolysis in sensitive species, all throwing formation of an alkowyacetic acid.		

HYDROCHLORIC ACID & LAURYL ALCOHOL, ETHOXYLATED & DIPROPYLENE GLYCOL MONOMETHYL ETHER	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.		
HYDROCHLORIC ACID & WATER	No significant acute toxicological data identified in literature search.		
HYDROCHLORIC ACID & DIPROPYLENE GLYCOL MONOMETHYL ETHER	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.		
LAURYL ALCOHOL, ETHOXYLATED & DIPROPYLENE GLYCOL MONOMETHYL ETHER	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.		
Acute Toxicity	✓	Carcinogenicity	×
Skin Irritation/Corrosion	×	Reproductivity	×
Serious Eye Damage/Irritation	×	STOT - Single Exposure	×
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×
		Legend: X – Data either r ✓ – Data availab	not available or does not fill the criteria for classification le to make classification

# **SECTION 12 Ecological information**

NV Hot Stripper	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Availabl
	Endpoint	Test Duration (hr)	Species	Value	Sourc
hydrochloric acid	EC50(ECx)	9.33h	Fish	0.51mg/L	4
	LC50	96h	Fish	334.734mg/L	4
	Endpoint	Test Duration (hr)	Species	Value	Sourc
	NOEC(ECx)	504h	Crustacea	0.144mg/l	2
auryi alconol, etnoxylated	EC50	48h	Crustacea	1.2mg/L	5
	LC50	96h	Fish	1.5mg/l	2
	Endpoint	Test Duration (hr)	Species	Value	Sourc
	EC50	72h	Algae or other aquatic plants	>969mg/l	2
dipropylene glycol	NOEC(ECx)	528h	Crustacea	>=0.5mg/l	2
monomethyl ether	EC50	48h	Crustacea	1930mg/l	2
	EC50	96h	Algae or other aquatic plants	>969mg/l	2
	LC50	96h	Fish	>1000mg/l	2
	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	672h	Fish	0.17mg/l	2
ammonium fluoride	EC50	48h	Crustacea	2.94mg/l	2
	EC50	96h	Algae or other aquatic plants	43mg/l	2
	LC50	96h	Fish	364mg/l	Not Availab
water	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Availab

Very toxic to aquatic organisms.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

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.

Ecotoxicity:

The tolerance of water organisms towards pH margin and variation is diverse. Recommended pH values for test species listed in OECD guidelines are between 6.0 and almost 9. Acute testing with fish showed 96h-LC50 at about pH 3.5

For Fluorides: Small amounts of fluoride have beneficial effects however; excessive intake over long periods may cause dental and/or skeletal fluorosis. Fluorides are absorbed by humans following inhalation of workplace and ambient air that has been contaminated, ingestion of drinking water and foods and dermal contact. Populations living in areas with high fluoride levels in groundwater may be exposed to higher levels of fluorides in their drinking water or in beverages prepared with the water. Among these populations, outdoor labourers, people living in hot climates, and people with excessive thirst will generally have the greatest daily intake of fluorides because they consume greater amounts of water. 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). For Ammonia:

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). Prevent, by any means available, spillage from entering drains or water courses.

DO NOT discharge into sewer or waterways.

#### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
hydrochloric acid	LOW	LOW
lauryl alcohol, ethoxylated	LOW	LOW
dipropylene glycol monomethyl ether	HIGH	HIGH
water	LOW	LOW

#### Bioaccumulative potential

Ingredient	Bioaccumulation
hydrochloric acid	LOW (LogKOW = 0.5392)
lauryl alcohol, ethoxylated	LOW (LogKOW = 3.6722)
dipropylene glycol monomethyl ether	LOW (BCF = 100)

#### Mobility in soil

Ingredient	Mobility
hydrochloric acid	LOW (KOC = 14.3)
lauryl alcohol, ethoxylated	LOW (KOC = 10)
dipropylene glycol monomethyl ether	LOW (KOC = 10)

#### **SECTION 13 Disposal considerations**

Waste treatment methods	
Product / Packaging disposal	<ul> <li>Containers may still present a chemical hazard/ danger when empty.</li> <li>Return to supplier for reuse/ recycling if possible.</li> <li>Otherwise: <ul> <li>If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>Where possible retain label warnings and SDS and observe all notices pertaining to the product.</li> <li>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.</li> <li>A Hierarchy of Controls seems to be common - the user should investigate:</li> <li>Reduction</li> <li>Reuse</li> <li>Recycling</li> <li>Disposal (if all else fails)</li> </ul> </li> <li>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.</li> <li><b>DO NOT</b> allow wash water from cleaning or process equipment to enter drains.</li> <li>It may be necessary to collect all wash water for treatment before disposal.</li> <li>In all cases disposal to sever may be subject to local laws and regulations and these should be considered first.</li> <li>Where in doubt contact the responsible authority.</li> <li>Recycle wherever possible.</li> <li>Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.</li> <li>Treat and neutralise at an approved treatment plant. Treatment should involve: Neutralisation with soda-ash or soda-lime followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).</li> </ul>

### **SECTION 14 Transport information**

#### Labels Required



Marine Pollutant	NO
HAZCHEM	2X

# Land transport (ADG)

UN number	2922	
UN proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S. (contains ammonium fluoride and hydrochloric acid)	
Transport hazard class(es)	Class8Subrisk6.1	
Packing group	II	
Environmental hazard	Not Applicable	
Special precautions for user	Special provisions     274       Limited quantity     1 L	

## Air transport (ICAO-IATA / DGR)

UN number	2922			
UN proper shipping name	Corrosive liquid, toxic, n.o.s. * (contains ammonium fluoride and hydrochloric acid)			
Transport hazard class(es)	ICAO/IATA Class ICAO / IATA Subrisk ERG Code	8 6.1 8P		
Packing group	I			
Environmental hazard	Not Applicable			
	Special provisions		A3 A803	
	Cargo Only Packing Ir	nstructions	855	
	Cargo Only Maximum	Qty / Pack	30 L	
Special precautions for user	Passenger and Cargo	Packing Instructions	851	
	Passenger and Cargo Maximum Qty / Pack		1 L	
	Passenger and Cargo Limited Quantity Packing Instructions		Y840	
	Passenger and Cargo Limited Maximum Qty / Pack		0.5 L	

# Sea transport (IMDG-Code / GGVSee)

UN number	2922		
UN proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S. (contains ammonium fluoride and hydrochloric acid)		
Transport hazard class(es)	IMDG Class8IMDG Subrisk6.1		
Packing group	П		
Environmental hazard	Not Applicable		
Special precautions for user	EMS Number Special provisions Limited Quantities	F-A, S-B 274 1 L	

Transport in bulk according to Annex II of MARPOL and the IBC code Not Applicable

## Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
hydrochloric acid	Not Available
lauryl alcohol, ethoxylated	Not Available
dipropylene glycol monomethyl ether	Not Available
ammonium fluoride	Not Available
water	Not Available

# Transport in bulk in accordance with the ICG Code

Product name	Ship Type
hydrochloric acid	Not Available
lauryl alcohol, ethoxylated	Not Available

Product name	Ship Type			
dipropylene glycol monomethyl ether	Not Available			
ammonium fluoride	Not Available			
water	Not Available			
SECTION 15 Regulatory inf	ormation			
Safety, health and environmer	ntal regulations / legislation specific for the su	bstance or mixture		
hydrochloric acid is found on th	e following regulatory lists			
Australia Hazardous Chemical Info	ormation System (HCIS) - Hazardous Chemicals	Australian Inventory of Industrial Chemicals (AIIC)		
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5		International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs		
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6				
lauryl alcohol, ethoxylated is for	und on the following regulatory lists			
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals		Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) -		
Australia Industrial Chemicals Intro	oduction Scheme Comparable Chemicals Table	Schedule 3 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)		
Schedule 2	Scheduling of Medicines and Poisons (SUSMP) -	Schedule 4		
		Australian Inventory of Industrial Chemicals (AIIC)		
dipropylene glycol monomethyl	ether is found on the following regulatory lists			
Australian Inventory of Industrial C	chemicals (AIIC)			
ammonium fluoride is found on	the following regulatory lists			
Australia Hazardous Chemical Info	ormation System (HCIS) - Hazardous Chemicals	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC		
Australian Inventory of Industrial C	hemicals (AIIC)	Monographs		
water is found on the following	regulatory lists			
Australian Inventory of Industrial C	hemicals (AIIC)			
National Inventory Status				
National Inventory	Status			
Australia - AIIC / Australia Non-Industrial Use	Yes			
Canada - DSI	Yes			
Canada - NDSL	No (hydrochloric acid: Jauryl alcohol, ethoxylated: dipropylene glycol monomethyl ether: ammonium fluoride: water)			
China - IECSC				
Europe - EINEC / ELINCS / NLP	Yes			
Japan - ENCS	Yes	Yes		
Korea - KECI	Yes			
New Zealand - NZIoC	Yes			
Philippines - PICCS	Yes			
USA - TSCA	Yes			
Taiwan - TCSI	Yes			
Mexico - INSQ	Yes			
Vietnam - NCI	Yes			
Russia - FREPH	Vas			

#### **SECTION 16 Other information**

Revision Date	12/10/2021
Initial Date	12/10/2021

No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

#### Other information

Legend:

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.

Yes = All CAS declared ingredients are on the inventory

The 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

end of SDS

#### **Bulk Blendz Hot Stripper**

TEEL: Temporary Emergency Exposure  $\mathsf{Limit}_\circ$ IDLH: Immediately Dangerous to Life or Health Concentrations ES: Exposure Standard 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 AIIC: Australian Inventory of Industrial Chemicals DSL: Domestic Substances List NDSL: Non-Domestic Substances List IECSC: Inventory of Existing Chemical Substance in China EINECS: European INventory of Existing Commercial chemical Substances ELINCS: European List of Notified Chemical Substances NLP: No-Longer Polymers ENCS: Existing and New Chemical Substances Inventory KECI: Korea Existing Chemicals Inventory NZIOC: New Zealand Inventory of Chemicals PICCS: Philippine Inventory of Chemicals and Chemical Substances TSCA: Toxic Substances Control Act TCSI: Taiwan Chemical Substance Inventory INSQ: Inventario Nacional de Sustancias Químicas NCI: National Chemical Inventory FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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