

# CRC Rust Converter Aerosol CRC Industries (CRC Industries New Zealand)

Chemwatch: **5459-37** Version No: **7.1** 

Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

Chemwatch Hazard Alert Code: 3

Initial Date: 22/04/2021 Revision Date: 18/06/2024 Print Date: 28/10/2025 S.GHS.NZL.EN

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

#### **Product Identifier**

Product name	CRC Rust Converter Aerosol
Chemical Name	Not Applicable
Synonyms	14610
Proper shipping name	AEROSOLS
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	Conversion coating for rusted steel.
	Application is by spray atomisation from a hand held aerosol pack

# Details of the manufacturer or importer of the safety data sheet

Registered company name	CRC Industries (CRC Industries New Zealand)	
Address	Highbrook Drive East Tamaki Auckland New Zealand	
Telephone	+64 9 272 2700	
Fax	+64 9 274 9696	
Website	www.crc.co.nz	
Email	- No EMAL ID NEEDED for NZ - JACK	

# **Emergency telephone number**

Association / Organisation	CRC Industries (CRC Industries New Zealand)	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone number(s)	NZ Poisons Centre 0800 POISON (0800 764 766)	+64 800 700 112 (ID#: 5459-37)
Other emergency telephone number(s)	111 (NZ Emergency Services)	+61 3 9573 3188

# **SECTION 2 Hazards identification**

# Classification of the substance or mixture

Classification <sup>[1]</sup>	Aerosols, Hazard Category 1, Serious Eye Damage/Eye Irritation Category 2, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3	
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI	
Determined by Chemwatch using GHS/HSNO criteria	2.1.2A, 6.4A, 6.9B (narcotic effects)	

### Label elements

#### Hazard pictogram(s)





Signal word

Danger

# Hazard statement(s)

H222+H229	Extremely flammable aerosol. Pressurized container: may burst if heated.	
H319	Causes serious eye irritation.	
H336	May cause drowsiness or dizziness.	

# Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.	
P211	Do not spray on an open flame or other ignition source.	
P251	Do not pierce or burn, even after use.	
P271	Use only outdoors or in a well-ventilated area.	

# Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.	
P337+P313	If eye irritation persists: Get medical advice/attention.	
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.	

#### Precautionary statement(s) Storage

P405	Store locked up.	
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.	
P403+P233	Store in a well-ventilated place. Keep container tightly closed.	

# Precautionary statement(s) Disposal

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

No further product hazard information.

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

#### **Substances**

See section below for composition of Mixtures

#### **Mixtures**

CAS No	%[weight]	Name
67-64-1	30-50	acetone
67-63-0	20-30	isopropanol
111-76-2	2-5	ethylene glycol monobutyl ether
149-91-7	2-3	gallic acid
68476-85-7.	10-30	hydrocarbon propellant
Legend: 1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L * EU IOELVs available		

# **SECTION 4 First aid measures**

# Description of first aid measures

**Eye Contact** 

If aerosols come in contact with the eyes:

Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes 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.

- ▶ Transport to hospital or doctor without delay.
- ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact	If solids or aerosol mists are deposited upon the skin:  Flush skin and hair with running water (and soap if available).  Remove any adhering solids with industrial skin cleansing cream.  DO NOT use solvents.  Seek medical attention in the event of irritation.
Inhalation	If aerosols, fumes or combustion products are inhaled:  Remove to fresh air.  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.  If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.  Transport to hospital, or doctor.
Ingestion	<ul> <li>Avoid giving milk or oils.</li> <li>Avoid giving alcohol.</li> <li>Not considered a normal route of entry.</li> </ul>

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

#### For petroleum distillates

- In case of ingestion, gastric lavage with activated charcoal can be used promptly to prevent absorption decontamination (induced emesis or lavage) is controversial and should be considered on the merits of each individual case; of course the usual precautions of an endotracheal tube should be considered prior to lavage, to prevent aspiration.
- · Individuals intoxicated by petroleum distillates should be hospitalized immediately, with acute and continuing attention to neurologic and cardiopulmonary function
- · Positive pressure ventilation may be necessary.
- · Acute central nervous system signs and symptoms may result from large ingestions of aspiration-induced hypoxia.
- · After the initial episode, individuals should be followed for changes in blood variables and the delayed appearance of pulmonary oedema and chemical pneumonitis. Such patients should be followed for several days or weeks for delayed effects, including bone marrow toxicity, hepatic and renal impairment Individuals with chronic pulmonary disease will be more seriously impaired, and recovery from inhalation exposure may be complicated.
- · Gastrointestinal symptoms are usually minor and pathological changes of the liver and kidneys are reported to be uncommon in acute intoxications.
- · Chlorinated and non-chlorinated hydrocarbons may sensitize the heart to epinephrine and other circulating catecholamines so that arrhythmias may occur. Careful consideration of this potential adverse effect should precede administration of epinephrine or other cardiac stimulants and the selection of bronchodilators.

Treat symptomatically.

For acute or short term repeated exposures to acetone:

- ▶ Symptoms of acetone exposure approximate ethanol intoxication.
- About 20% is expired by the lungs and the rest is metabolised. Alveolar air half-life is about 4 hours following two hour inhalation at levels near the Exposure Standard; in overdose, saturable metabolism and limited clearance, prolong the elimination half-life to 25-30 hours.
- There are no known antidotes and treatment should involve the usual methods of decontamination followed by supportive care.

[Ellenhorn and Barceloux: Medical Toxicology]

Management:

Measurement of serum and urine acetone concentrations may be useful to monitor the severity of ingestion or inhalation.

Inhalation Management:

- Maintain a clear airway, give humidified oxygen and ventilate if necessary.
- If respiratory irritation occurs, assess respiratory function and, if necessary, perform chest X-rays to check for chemical pneumonitis.
- Consider the use of steroids to reduce the inflammatory response.
- Treat pulmonary oedema with PEEP or CPAP ventilation.

#### **Dermal Management:**

- P Remove any remaining contaminated clothing, place in double sealed, clear bags, label and store in secure area away from patients and staff.
- Irrigate with copious amounts of water.
- An emollient may be required.

#### Eye Management:

- Irrigate thoroughly with running water or saline for 15 minutes.
- Stain with fluorescein and refer to an ophthalmologist if there is any uptake of the stain.

#### Oral Management:

- ▶ No GASTRIC LAVAGE OR EMETIC
- Encourage oral fluids.

#### Systemic Management:

- Monitor blood glucose and arterial pH.
- Ventilate if respiratory depression occurs.
- If patient unconscious, monitor renal function.
- Symptomatic and supportive care.

The Chemical Incident Management Handbook:

Guy's and St. Thomas' Hospital Trust, 2000

#### **BIOLOGICAL EXPOSURE INDEX**

These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

Determinant

Sampling Time

Index

Comments

Acetone in urine End of shift 50 mg/L NS

NS: Non-specific determinant; also observed after exposure to other material

For acute or short term repeated exposures to isopropanol:

Rapid onset respiratory depression and hypotension indicates serious ingestions that require careful cardiac and respiratory monitoring together with immediate intravenous access.

- Rapid absorption precludes the usefulness of emesis or lavage 2 hours post-ingestion. Activated charcoal and cathartics are not clinically useful. Ipecac is most useful when given 30 mins. post-ingestion.
- There are no antidotes.
- ▶ Management is supportive. Treat hypotension with fluids followed by vasopressors.
- Watch closely, within the first few hours for respiratory depression; follow arterial blood gases and tidal volumes.
- Ice water lavage and serial haemoglobin levels are indicated for those patients with evidence of gastrointestinal bleeding.

#### **SECTION 5 Firefighting measures**

#### **Extinguishing media**

#### SMALL FIRE:

Water spray, dry chemical or CO2

#### LARGE FIRE:

Water spray or fog.

#### 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>May be violently or explosively reactive.</li> <li>Wear breathing apparatus plus protective gloves.</li> <li>Prevent, by any means available, spillage from entering drains or water course.</li> </ul>
Fire/Explosion Hazard	<ul> <li>Liquid and vapour are highly flammable.</li> <li>Severe fire hazard when exposed to heat or flame.</li> <li>Vapour forms an explosive mixture with air.</li> <li>Severe explosion hazard, in the form of vapour, when exposed to flame or spark.</li> <li>Combustion products include:</li> <li>carbon monoxide (CO)</li> <li>carbon dioxide (CO2)</li> <li>other pyrolysis products typical of burning organic material.</li> <li>Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.</li> </ul>

#### **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>Clean up all spills immediately.</li> <li>Avoid breathing vapours and contact with skin and eyes.</li> <li>Wear protective clothing, impervious gloves and safety glasses.</li> <li>Shut off all possible sources of ignition and increase ventilation.</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 breathing apparatus plus protective gloves.</li> <li>Clear area of all unprotected personnel and move upwind.</li> <li>Alert Emergency Authority and advise them of the location and nature of hazard.</li> <li>May be violently or explosively reactive.</li> <li>Wear full body 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

The conductivity of this material may make it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 10 00 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid.

- ▶ DO NOT allow clothing wet with material to stay in contact with skin
- 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.
 Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can
 Store in original containers in approved flammable liquid storage area.
 DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
 No smoking, naked lights, heat or ignition sources.
 Keep containers securely sealed.

#### Conditions for safe storage, including any incompatibilities

Suitable container	<ul> <li>DO NOT use aluminium or galvanised containers</li> <li>Aerosol dispenser.</li> <li>Check that containers are clearly labelled.</li> </ul>
Storage incompatibility	Avoid reaction with oxidising agents

#### **SECTION 8 Exposure controls / personal protection**

# Control parameters

#### Occupational Exposure Limits (OEL)

# INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	acetone	Acetone	500 ppm / 1185 mg/m3	2375 mg/m3 / 1000 ppm	Not Available	bio - Exposure can also be estimated by biological monitoring
New Zealand Workplace Exposure Standards (WES)	isopropanol	Isopropyl alcohol	200 ppm / 491 mg/m3	983 mg/m3 / 400 ppm	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	ethylene glycol monobutyl ether	2-Butoxyethanol (Butyl glycol ether)	10 ppm / 49 mg/m3	98 mg/m3 / 20 ppm	Not Available	skin - Skin absorption
New Zealand Workplace Exposure Standards (WES)	gallic acid	Inhalable dust (not otherwise classified)	10 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	gallic acid	Respirable dust (not otherwise classified)	3 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	hydrocarbon propellant	LPG (Liquefied petroleum gas)	1000 ppm / 1800 mg/m3	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
acetone	2,500 ppm	Not Available
isopropanol	Not Available	Not Available
ethylene glycol monobutyl ether	700 ppm	Not Available
gallic acid	Not Available	Not Available
hydrocarbon propellant	Not Available	Not Available

# **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.

Individual protection measures, such as personal protective equipment









# Eye and face protection

- ► Safety glasses with side shields.
- ► Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]
- ▶ Full face shield may be required for supplementary but never for primary protection of eyes
- 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.
- Safety glasses with side shields.
- ▶ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]

	<ul> <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> <li>Close fitting gas tight goggles</li> <li>DO NOT wear contact lenses.</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 lens 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.</li> <li>No special equipment for minor exposure i.e. when handling small quantities.</li> <li>OTHERWISE: For potentially moderate or heavy exposures:</li> <li>Safety glasses with side shields.</li> <li>NOTE: Contact lenses pose a special hazard; soft lenses may absorb irritants and ALL lenses concentrate them.</li> </ul>
Skin protection	See Hand protection below
Hands/feet protection	<ul> <li>No special equipment needed when handling small quantities.</li> <li>OTHERWISE:</li> <li>For potentially moderate exposures:</li> <li>Wear general protective gloves, eg. light weight rubber gloves.</li> <li>For potentially heavy exposures:</li> <li>Wear chemical protective gloves, eg. PVC. and safety footwear.</li> </ul>
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities.  OTHERWISE:  Overalls.  Skin cleansing cream.  Eyewash unit.  The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.

#### 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 *computer-generated* selection:

**CRC Rust Converter Aerosol** 

Material	СРІ
PE/EVAL/PE	A
BUTYL	С
BUTYL/NEOPRENE	С
CPE	С
HYPALON	С
NAT+NEOPR+NITRILE	С
NATURAL RUBBER	С
NATURAL+NEOPRENE	С
NEOPRENE	С
NITRILE	С
NITRILE+PVC	С
PVA	С
PVC	С
PVDC/PE/PVDC	С
SARANEX-23	С
SARANEX-23 2-PLY	С
TEFLON	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

 $\label{NOTE: As a series of factors will influence the actual performance of the glove,} \\$ 

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

#### Respiratory protection

▶ Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.

BRETHERICK: Handbook of Reactive Chemical Hazards.

Type AX 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	AX-AUS	-	AX-PAPR-AUS / Class 1
up to 50 x ES	-	AX-AUS / Class 1	-
up to 100 x ES	-	AX-2	AX-PAPR-2 ^

# ^ - 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)

Aerosols, in common with most vapours/ mists, should never be used in confined spaces without adequate ventilation. Aerosols, containing agents designed to enhance or mask smell, have triggered allergic reactions in predisposed individuals.

Not Available

Not Available

Not Available

Not Available

Not Available

Not Available

Miscible

# **SECTION 9 Physical and chemical properties**

Appearance

# Information on basic physical and chemical properties

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)	4	Decomposition temperature (°C)	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)	<0	Taste	Not Available
Evaporation rate	Medium	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available

**Volatile Component (%vol)** 

pH as a solution (1%)

Ignition Distance (cm)

**Enclosed Space Ignition** 

Flame Duration (s)

**Deflagration Density** 

Gas group

VOC g/L

(g/m3)

Not Available

Highly flammable clear liquid with mild odour; mixes with water.

# **SECTION 10 Stability and reactivity**

Lower Explosive Limit (%)

Vapour pressure (kPa)

Vapour density (Air = 1)

Heat of Combustion (kJ/g)

**Enclosed Space Ignition** 

Time Equivalent (s/m3)

Solubility in water

Flame Height (cm)

Reactivity	See section 7
Chemical stability	<ul> <li>Elevated temperatures.</li> <li>Presence of open flame.</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

a) Acute Toxicity	Based on available data, the classification criteria are not met.
b) Skin Irritation/Corrosion	Based on available data, the classification criteria are not met.
c) Serious Eye Damage/Irritation	There is sufficient evidence to classify this material as eye damaging or irritating
d) Respiratory or Skin sensitisation	Based on available data, the classification criteria are not met.
e) Mutagenicity	Based on available data, the classification criteria are not met.
f) Carcinogenicity	Based on available data, the classification criteria are not met.
g) Reproductivity	Based on available data, the classification criteria are not met.

h) STOT - Single Exposure	There is sufficient evidence to classify this material as toxic to specific organs through single exposure
i) STOT - Repeated	Based on available data, the classification criteria are not met.
Exposure	
j) Aspiration Hazard	Based on available data, the classification criteria are not met.
Inhaled	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. Isobutane produces a dose dependent action and at high concentrations may cause numbness, suffocation, exhilaration, dizziness, headache, nausea, confusion, incoordination and unconsciousness in severe cases. The paraffin gases are practically not harmful at low doses. Higher doses may produce reversible brain and nerve depression and irritation.  Aliphatic alcohols with more than 3-carbons cause headache, dizziness, drowsiness, muscle weakness and delirium, central depression, coma, seizures and behavioural changes. Secondary respiratory depression and failure, as well as low blood pressure and irregular heart rhythms, may follow. Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.  Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.  Nerve damage can be caused by some non-ring hydrocarbons. Symptoms are temporary, and include weakness, tremors, increased saliva, some convulsions, excessive tears with discolouration and inco-ordination lasting up to 24 hours.  Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure.  WARNING:Intentional misuse by concentrating/inhaling contents may be lethal.  The odour of isopropanol may give some warning of exposure, but odour fatigue may occur. Inhalation of isopropanol may produce irritation of the nose and throat with sneezing,
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.  Overexposure to non-ring alcohols causes nervous system symptoms. These include headache, muscle weakness and incoordination, giddiness, confusion, delirium and coma.  Not normally a hazard due to physical form of product.  Considered an unlikely route of entry in commercial/industrial environments  Isoparaffinic hydrocarbons cause temporary lethargy, weakness, inco-ordination and diarrhoea.  Swallowing 10 millilitres of isopropanol may cause serious injury; 100 millilitres may be fatal if not properly treated. The adult single lethal dose is approximately 250 millilitres. Isopropanol is twice as poisonous as ethanol, and the effects caused are similar, except that isopropanol does not cause an initial feeling of well-being. Swallowing may cause nausea, vomiting and diarrhea; vomiting and stomach inflammation is more prominent with isopropanol than with ethanol.
Skin Contact	Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.  There is some evidence to suggest that the material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.  Skin exposure to isoparaffins may produce slight to moderate irritation in animals and humans. Rare sensitisation reactions in humans have occurred.  Spray mist may produce discomfort  Most liquid alcohols appear to act as primary skin irritants in humans. Significant percutaneous absorption occurs in rabbits but not apparently in man.  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.
Еуе	Instillation of isoparaffins into rabbit eyes produces only slight irritation.  Not considered to be a risk because of the extreme volatility of the gas.  Isopropanol vapour may cause mild eye irritation at 400 parts per million. Splashes may cause severe eye irritation, possible burns to the cornea and eye damage. Eye contact may cause tearing and blurring of vision.  There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain.  The liquid may produce eye discomfort and is capable of causing temporary impairment of vision and/or transient eye inflammation, ulceration
Chronic	Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.  Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.  Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin.  Main route of exposure to the gas in the workplace is by inhalation.  Workers exposed to acetone for long periods showed inflammation of the airways, stomach and small bowel, attacks of giddiness and loss of strength. Exposure to acetone may enhance the liver toxicity of chlorinated solvents.  WARNING: Aerosol containers may present pressure related hazards.

CRC Rust Converter	TOXICITY	IRRITATION	
Aerosol	Not Available	Not Available	
	TOXICITY	IRRITATION	
	Dermal (rabbit) LD50: 20000 mg/kg <sup>[2]</sup>	Eye (Human): 186300ppm - Mild	
	Inhalation (Mouse) LC50: 44 mg/L4h <sup>[2]</sup>	Eye (Human): 500ppm	
	Oral (Rat) LD50: 5800 mg/kg <sup>[2]</sup>	Eye (Rodent - rabbit): 10uL - Mild	
aaatana		Eye (Rodent - rabbit): 20mg - Severe	
acetone		Eye (Rodent - rabbit): 20mg/24H - Moderate	
		Eye: adverse effect observed (irritating) <sup>[1]</sup>	
		Skin (Rodent - rabbit): 395mg - Mild	
		Skin (Rodent - rabbit): 500mg/24H - Mild	
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>	
	TOXICITY	IRRITATION	
	Dermal (rabbit) LD50: 12800 mg/kg <sup>[2]</sup>	Eye (Rodent - rabbit): 100mg - Severe	
	Inhalation (Mouse) LC50: 53 mg/L4h <sup>[2]</sup>	Eye (Rodent - rabbit): 100mg/24H - Moderate	
isopropanol	Oral (Mouse) LD50; 3600 mg/kg <sup>[2]</sup>	Eye (Rodent - rabbit): 10mg - Moderate	
		Eye: adverse effect observed (irritating) <sup>[1]</sup>	
		Skin (Rodent - rabbit): 500mg - Mild	
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>	
	TOXICITY	IRRITATION	
	Dermal (Guinea Pig) LD50: 210 mg/kg <sup>[2]</sup>	Eye (Rodent - rabbit): 100mg/24H - Moderate	
ethylene glycol monobutyl	Inhalation (Rat) LC50: 450 ppm4h <sup>[2]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>	
ether	Oral (Rat) LD50: 250 mg/kg <sup>[2]</sup>	Skin (Rodent - rabbit): 500mg - Mild	
		Skin: adverse effect observed (irritating) <sup>[1]</sup>	
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>	
	TOXICITY	IRRITATION	
gallic acid	Oral (Rabbit) LD50; 5000 mg/kg <sup>[2]</sup>	Not Available	
	TOXICITY	IRRITATION	
hydrocarbon propellant	Inhalation (Rat) LC50: 658 mg/l4h <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>	
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>	
Legend:	Value obtained from Europe ECHA Registered Sub	stances - Acute toxicity 2. Value obtained from manufacturer's SDS.	
-	Unless otherwise specified data extracted from RTEC		
	Francisco		
ACETONE	For acetone:  The acute toxicity of acetone is low. Acetone is not a skin irritant or sensitizer, but it removes fat from the skin, and it also irritates the eye. Animal testing shows acetone may cause anaemia. Studies in humans have shown that exposure to acetone at a level of 2375 mg/m3 does not negatively impact an individual's emotional regulation, behaviour, or learning ability.		

ACETONE	For acetone:  The acute toxicity of acetone is low. Acetone is not a skin irritant or sensitizer, but it removes fat from the skin, and it also irritates the eye. Animal testing shows acetone may cause anaemia. Studies in humans have shown that exposure to acetone at a level of 2375 mg/m3 does not negatively impact an individual's emotional regulation, behaviour, or learning ability.
ISOPROPANOL	Isopropanol is irritating to the eyes, nose and throat but generally not to the skin. Prolonged high dose exposure may also produce depression of the central nervous system and drowsiness. Few have reported skin irritation. It can be absorbed from the skin or when inhaled.  The substance is classified by IARC as Group 3:  NOT classifiable as to its carcinogenicity to humans.  Evidence of carcinogenicity may be inadequate or limited in animal testing.
ETHYLENE GLYCOL MONOBUTYL ETHER	NOTE: Changes in kidney, liver, spleen and lungs are observed in animals exposed to high concentrations of this substance by all routes. ** ASCC (NZ) SDS  The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.  For ethylene glycol monoalkyl ethers and their acetates (EGMAEs):  Typical members of this category are ethylene glycol propylene ether (EGPE), ethylene glycol butyl ether (EGBE) and ethylene glycol hexyl ether (EGHE) and their acetates.

EGMAEs are substrates for alcohol dehydrogenase isozyme ADH-3, which catalyzes the conversion of their terminal alcohols to aldehydes (which are transient metabolites). Further, rapid conversion of the aldehydes by aldehyde dehydrogenase produces

	alkoxyacetic acids, which are the predominant of Acute Toxicity: Oral LD50 values in rats for all values increasing with decreasing molecular we chemicals in rats at the highest vapour concent EGHE, LC50 > 400ppm (2620 mg/m3) for EGB Animal testing showed that exposure to ethylen Reproductive effects were thought to be less the Chronic exposure may cause anaemia, with enbutoxyethanol may cause generalized clotting a cancers, including liver cancer.	category members range from 73 eight. Four to six hour acute inhala rations practically achievable. Value A to LC50 > 2132 ppm (9061 mg e glycol monobutyl ether resulted an that of other monoalkyl ethers largement and fragility of red blood	89 (EGHE) to 3089 mg/kg bw (EGPE), with ation toxicity studies were conducted for these uses range from LC0 > 85 ppm (508 mg/m3) for g/m3) for EGPE.  in toxicity to both the mother and the embryo. of ethylene glycol.  d cells. It is thought that in animals
GALLIC ACID	Oral (mice) NOAEL: 5000 mg/kg (non toxic) ** ** ** [Food and Chemical Toxicology, 2001, Vol 39, Iss 9, pp 919-922]  The following information refers to contact allergens as a group and may not be specific to this product.  Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.  Accumulated studies have proved that non-steroidal anti-inflammatory drugs (NSAIDs) which block inflammation by their actions on arachidonic acid (AA) metabolism have a potential role in cancer chemotherapy and chemoprevention.  There is a general acceptance that NSAIDs induce colon cancer in humans. One suggested reason is that the balance between COX and lipoxygenase (LOX) activity determines tumorigenesis critically. Under low COX activity, arachidonic acid released from cell membranes in response to external stimuli is preferentially metabolized by LOX enzymes. The oxygenated lipids (metabolites) produced by LOXs initiate subsequent biological reactions, activate cellular signaling mechanisms through specific cell surface receptors, or are further metabolized into potent lipid mediators.  Ingestion of aspirin or other NSAIDs may elicit respiratory, nasal, and gastrointestinal symptoms, as well as dermal changes in a subset of patients with asthma. The sensitivity to cyclooxygenase (COX) inhibitors has led to the hypothesis that NSAIDs may be causing upregulation of the 5-lipoxygenase pathway and its attendant products, the leukotrienes, in these patients. It has been shown increase in urinary leukotriene E 4 (LTE4) after aspirin ingestion or inhalation of lysine-aspirin in aspirin-sensitive patients with asthma. It has also been demonstrated that pharmacologic blockade at the level of the cysteinyl leukotriene receptor(s) can		
HYDROCARBON PROPELLANT	No significant acute toxicological data identified in literature search. inhalation of the gas		
ACETONE & ISOPROPANOL & ETHYLENE GLYCOL MONOBUTYL 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.		
ISOPROPANOL & GALLIC ACID	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.		
Acute Toxicity	x	Carcinogenicity	x
Skin Irritation/Corrosion	×	Reproductivity	×
Serious Eye Damage/Irritation	<b>~</b>	STOT - Single Exposure	•
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×

**Legend: X** − Data either not available or does not fill the criteria for classification

✓ – Data available to make classification

# **SECTION 12 Ecological information**

# Toxicity

0000 10 1	Endpoint	Test Duration (hr)	Species	Value	Source
CRC Rust Converter Aerosol	Not Available	Not Available	Not Available	Not Available	Not Available
acetone	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	5600- 10000mg/L	4
	EC50	48h	Crustacea	6098.4mg/L	5
	EC50	96h	Algae or other aquatic plants	9.873- 27.684mg/l	4
	NOEC(ECx)	12h	Fish	0.001mg/L	4
	LC50	96h	Fish	3744.6- 5000.7mg/L	4

	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>1000mg/l	1
	EC50	48h	Crustacea	7550mg/l	4
isopropanol	EC50	96h	Algae or other aquatic plants	>1000mg/l	1
	EC50(ECx)	24h	Algae or other aquatic plants	0.011mg/L	4
	LC50	96h	Fish	>1400mg/L	4
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	623mg/l	2
ethylene glycol monobutyl	EC50	48h	Crustacea	164mg/l	2
ether	EC10(ECx)	48h	Crustacea	7.2mg/l	2
	EC50	96h	Algae or other aquatic plants	720mg/l	2
	LC50	96h	Fish	1250mg/l	2
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	48h	Crustacea	19.1mg/l	2
gallic acid	NOEC(ECx)	48h	Algae or other aquatic plants	1.6mg/l	4
	LC50	96h	Fish	>100mg/l	2
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	96h	Algae or other aquatic plants	7.71mg/l	2
hydrocarbon propellant	EC50(ECx)	96h	Algae or other aquatic plants	7.71mg/l	2
	LC50	96h	Fish	24.11mg/l	2
Legend:	4. US EPA, Eco	-	ECHA Registered Substances - Ecotoxicologica ta 5. ECETOC Aquatic Hazard Assessment Date entration Data 8. Vendor Data	•	ntic Toxici

**DO NOT** discharge into sewer or waterways.

# Persistence and degradability

•		
Ingredient	Persistence: Water/Soil	Persistence: Air
acetone	LOW (Half-life = 14 days)	MEDIUM (Half-life = 116.25 days)
isopropanol	LOW (Half-life = 14 days)	LOW (Half-life = 3 days)
ethylene glycol monobutyl ether	LOW (Half-life = 56 days)	LOW (Half-life = 1.37 days)
gallic acid	LOW	LOW

# Bioaccumulative potential

Ingredient	Bioaccumulation
acetone	LOW (BCF = 0.69)
isopropanol	LOW (LogKOW = 0.05)
ethylene glycol monobutyl ether	LOW (BCF = 2.51)
gallic acid	LOW (LogKOW = 0.7)
hydrocarbon propellant	LOW (LogKOW = 3.39)

# Mobility in soil

Ingredient	Mobility
acetone	HIGH (Log KOC = 1.981)
isopropanol	HIGH (Log KOC = 1.06)
ethylene glycol monobutyl ether	HIGH (Log KOC = 1)
gallic acid	LOW (Log KOC = 64.16)

# **SECTION 13 Disposal considerations**

# Product / Packaging disposal

- ▶ **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.
- ▶ Consult State Land Waste Management Authority for disposal.
- ▶ Discharge contents of damaged aerosol cans at an approved site.
- Allow small quantities to evaporate.
- ▶ **DO NOT** incinerate or puncture aerosol cans.

Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

# **Disposal Requirements**

Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package. The package must be disposed according to the manufacturer's directions taking into account the material it is made of. Packages which hazardous content have been appropriately treated and removed may be recycled.

The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics or composition of the substance and it is no longer hazardous.

# **SECTION 14 Transport information**

# **Labels Required**

	2
Marine Pollutant	NO
HAZCHEM	Not Applicable

#### Land transport (UN)

14.1. UN number or ID number	1950			
14.2. UN proper shipping name	AEROSOLS	AEROSOLS		
14.3. Transport hazard class(es)	Class Subsidiary Hazard			
14.4. Packing group	Not Applicable	Not Applicable		
14.5. Environmental hazard	Not Applicable			
14.6. Special precautions for user	Special provisions         63; 190; 277; 327; 344; 381           Limited quantity         1000ml			

# Air transport (ICAO-IATA / DGR)

	,			
14.1. UN number	1950			
14.2. UN proper shipping name	Aerosols, flammable (engine starting fluid)			
	ICAO/IATA Class	2.1		
14.3. Transport hazard class(es)	ICAO / IATA Subsidiary Hazard	Not Applicable		
Ciass(es)	ERG Code	10L		
14.4. Packing group	Not Applicable	Not Applicable		
14.5. Environmental hazard	Not Applicable			
14.6. Special precautions for user	Special provisions		A1 A145 A167 A802	
TOT USET	Cargo Only Packing Instructions		203	
	Cargo Only Maximum Qty / Pack		150 kg	
	Passenger and Cargo Packing Ir	nstructions	Forbidden	
	Passenger and Cargo Maximum	Qty / Pack	Forbidden	
	Passenger and Cargo Limited Qu	uantity Packing Instructions	Forbidden	
	Passenger and Cargo Limited Ma	aximum Qty / Pack	Forbidden	

#### Sea transport (IMDG-Code / GGVSee)

14.1. UN number	1950		
14.2. UN proper shipping name	AEROSOLS		
14.3. Transport hazard class(es)	IMDG Class IMDG Subsidiary Ha	2.1 Zard Not Applicable	
14.4. Packing group	Not Applicable		
14.5 Environmental hazard	Not Applicable		
14.6. Special precautions for user	EMS Number F-D, S-U Special provisions 63 190 277 327 344 381 959 Limited Quantities 1000 ml		

# 14.7. Maritime transport in bulk according to IMO instruments

#### 14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

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

Product name	Group
acetone	Not Applicable
isopropanol	Not Applicable
ethylene glycol monobutyl ether	Not Applicable
gallic acid	Not Applicable
hydrocarbon propellant	Not Applicable

# 14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
acetone	Not Applicable
isopropanol	Not Applicable
ethylene glycol monobutyl ether	Not Applicable
gallic acid	Not Applicable
hydrocarbon propellant	Not Applicable

# **SECTION 15 Regulatory information**

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

This substance is to be managed using the conditions specified in an applicable Group Standard

HSR Number	Group Standard	
HSR002515	Aerosols Flammable Group Standard 2020	

Please refer to Section 8 of the SDS for any applicable tolerable exposure limit or Section 12 for environmental exposure limit.

# acetone is found on the following regulatory lists

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

# isopropanol is found on the following regulatory lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

#### ethylene glycol monobutyl ether is found on the following regulatory lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

#### gallic acid is found on the following regulatory lists

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

#### hydrocarbon propellant is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

#### **Additional Regulatory Information**

Not Applicable

#### **Hazardous Substance Location**

Subject to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Quantity (Closed Containers)	Quantity (Open Containers)
2.1.2A	3 000 L (aggregate water capacity)	3 000 L (aggregate water capacity)

# Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Class of substance	Quantities
Not Applicable	Not Applicable

Refer Group Standards for further information

#### Maximum quantities of certain hazardous substances permitted on passenger service vehicles

Subject to Regulation 13.14 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Gas (aggregate water capacity in mL)	Liquid (L)	Solid (kg)	Maximum quantity per package for each classification
2.1.2A				1L (aggregate water capacity)

# **Tracking Requirements**

Not Applicable

# **National Inventory Status**

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (acetone; isopropanol; ethylene glycol monobutyl ether; gallic acid; hydrocarbon propellant)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes

National Inventory	Status
Philippines - PICCS	Yes
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory 'Active'
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
UAE - Control List (Banned/Restricted Substances)	No (acetone; isopropanol; ethylene glycol monobutyl ether; gallic acid; hydrocarbon propellant)
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

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

Revision Date	18/06/2024
Initial Date	22/04/2021

#### **SDS Version Summary**

Version	Date of Update	Sections Updated
6.1	13/07/2023	Hazards identification - Classification
7.1	18/06/2024	Toxicological information - Acute Health (swallowed), Hazards identification - Classification

#### Other information

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.

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
- ▶ TEEL: Temporary Emergency Exposure Limit。
- 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
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ MARPOL: International Convention for the Prevention of Pollution from Ships
- ▶ IMSBC: International Maritime Solid Bulk Cargoes Code
- ▶ IGC: International Gas Carrier Code
- ▶ IBC: International Bulk Chemical Code
- 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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