

Internal Standard Mix

Novachem Pty Ltd

Chemwatch Hazard Alert Code: 2

Version No: 1.1

Issue Date: 22/08/2018

Safety Data Sheet according to WHS and ADG requirements

Print Date: 22/08/2018

S.GHS.AUS.EN

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

Product Identifier

Product name	Internal Standard Mix
Synonyms	Z-014J
Proper shipping name	DICHLOROMETHANE
Other means of identification	Not Available
CAS number	Not Available

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

Relevant identified uses	Laboratory Chemical Reference Material
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Details of the supplier of the safety data sheet

Registered company name	Novachem Pty Ltd
Address	25 Crissane Road, Heidelberg West Victoria 3081 Australia
Telephone	+61384151255
Fax	+61386250088
Website	www.novachem.com.au
Email	novachem@novachem.com.au

Emergency telephone number


Association / Organisation	Victorian Poisons Information Centre
Emergency telephone numbers	13 11 26
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Poisons Schedule	S5
Classification [1]	Acute Toxicity (Oral) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Carcinogenicity Category 2, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Acute Aquatic Hazard Category 3, Chronic Aquatic Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
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SIGNAL WORD	WARNING
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Hazard statement(s)

H302	Harmful if swallowed.
H332	Harmful if inhaled.
H315	Causes skin irritation.
H351	Suspected of causing cancer.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P271	Use only outdoors or in a well-ventilated area.
P281	Use personal protective equipment as required.
P261	Avoid breathing mist/vapours/spray.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

CAS No	%[weight]	Name
75-09-2	97	<u>methylene chloride</u>
15067-26-2	0.4	<u>acenaphthene-D10</u>
1719-03-5	0.4	<u>chrysene-D12</u>
3855-82-1	0.4	<u>1,4-dichlorobenzene-D4</u>
1146-65-2	0.4	<u>naphthalene-D8</u>
1520-96-3	0.4	<u>perylene-D12</u>
1517-22-2	0.4	<u>phenanthrene-D10</u>

Mixtures

See section above for composition of Substances

SECTION 4 FIRST AID MEASURES**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with fresh running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If 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. ▶ Transport to hospital, or doctor, without delay.
Ingestion	<ul style="list-style-type: none"> ▶ IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. ▶ For advice, contact a Poisons Information Centre or a doctor. ▶ Urgent hospital treatment is likely to be needed. ▶ In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. ▶ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist. ▶ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS. <p>Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:</p> <ul style="list-style-type: none"> ▶ INDUCE vomiting with fingers down the back of the throat, ONLY IF CONSCIOUS. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. <p>NOTE: Wear a protective glove when inducing vomiting by mechanical means.</p> <ul style="list-style-type: none"> ▶ Avoid giving milk or oils.

- ▶ Avoid giving alcohol.

Indication of any immediate medical attention and special treatment needed

As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination).

For poisons (where specific treatment regime is absent):

BASIC TREATMENT

- ▶ Establish a patent airway with suction where necessary.
- ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- ▶ Administer oxygen by non-rebreather mask at 10 to 15 L/min.
- ▶ Monitor and treat, where necessary, for pulmonary oedema.
- ▶ Monitor and treat, where necessary, for shock.
- ▶ Anticipate seizures.
- ▶ **DO NOT** use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

Treat symptomatically.

for intoxication due to Freons/ Halons;

A: Emergency and Supportive Measures

- ▶ Maintain an open airway and assist ventilation if necessary
- ▶ Treat coma and arrhythmias if they occur. Avoid (adrenaline) epinephrine or other sympathomimetic amines that may precipitate ventricular arrhythmias. Tachyarrhythmias caused by increased myocardial sensitisation may be treated with propranolol, 1-2 mg IV or esmolol 25-100 microg/kg/min IV.
- ▶ Monitor the ECG for 4-6 hours

B: Specific drugs and antidotes:

- ▶ There is no specific antidote

C: Decontamination

- ▶ Inhalation; remove victim from exposure, and give supplemental oxygen if available.
- ▶ Ingestion; (a) Prehospital: Administer activated charcoal, if available. **DO NOT** induce vomiting because of rapid absorption and the risk of abrupt onset CNS depression. (b) Hospital: Administer activated charcoal, although the efficacy of charcoal is unknown. Perform gastric lavage only if the ingestion was very large and recent (less than 30 minutes)

D: Enhanced elimination:

- ▶ There is no documented efficacy for diuresis, haemodialysis, haemoperfusion, or repeat-dose charcoal.

POISONING and DRUG OVERDOSE, Californian Poison Control System Ed. Kent R Olson; 3rd Edition

- ▶ Do not administer sympathomimetic drugs unless absolutely necessary as material may increase myocardial irritability.
- ▶ No specific antidote.
- ▶ Because rapid absorption may occur through lungs if aspirated and cause systematic effects, the decision of whether to induce vomiting or not should be made by an attending physician.
- ▶ If lavage is performed, suggest endotracheal and/or esophageal control.
- ▶ Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach.
- ▶ Treatment based on judgment of the physician in response to reactions of the patient

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

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

Special hazards arising from the substrate or mixture

Fire Incompatibility

- ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water courses. ▶ Use fire fighting procedures suitable for surrounding area.
Fire/Explosion Hazard	<p>Combustion products include: carbon dioxide (CO2) hydrogen chloride phosgene other pyrolysis products typical of burning organic material.</p> <p>Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions. May emit poisonous fumes.</p> <ul style="list-style-type: none"> ▶ Non flammable liquid. ▶ However vapour will burn when in contact with high temperature flame. ▶ Ignition ceases on removal of flame. ▶ May form a flammable / explosive mixture in an oxygen enriched atmosphere ▶ Heating may cause expansion/vapourisation with violent rupture of containers ▶ Decomposes on heating and produces corrosive fumes of hydrochloric acid, carbon monoxide and small amounts of toxic phosgene.

HAZCHEM 2Z

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 style="list-style-type: none"> ▶ Remove all ignition sources. ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. ▶ Control personal contact with the substance, by using protective equipment.
Major Spills	<ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water courses.

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

SECTION 7 HANDLING AND STORAGE**Precautions for safe handling**

Safe handling	<p>Contains low boiling substance: Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately.</p> <ul style="list-style-type: none"> ▶ Check for bulging containers. ▶ Vent periodically ▶ Always release caps or seals slowly to ensure slow dissipation of vapours ▶ DO NOT allow clothing wet with material to stay in contact with skin
Other information	<ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ Store in a cool, dry, well-ventilated area. ▶ Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▶ DO NOT use aluminium or galvanised containers ▶ Lined metal can, lined metal pail/ can. ▶ Plastic pail. ▶ Polyliner drum. ▶ Packing as recommended by manufacturer. <p>For low viscosity materials</p> <ul style="list-style-type: none"> ▶ Drums and jerricans must be of the non-removable head type. ▶ Where a can is to be used as an inner package, the can must have a screwed enclosure. <p>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):</p> <ul style="list-style-type: none"> ▶ Removable head packaging; ▶ Cans with friction closures and ▶ low pressure tubes and cartridges <p>may be used.</p>
Storage incompatibility	<p>Methylene chloride</p> <ul style="list-style-type: none"> ▶ is a combustible liquid under certain circumstances even though there is no measurable flash point and it is difficult to ignite ▶ its is flammable in ambient air in the range 12-23%; increased oxygen content can greatly enhance fire and explosion potential ▶ contact with hot surfaces and elevated temperatures can form fumes of hydrogen chloride and phosgene ▶ reacts violently with active metals, aluminium, lithium, methanol,, peroxydisulfuryl difluoride, potassium, potassium tert-butoxide, sodium ▶ forms explosive mixtures with nitric acid ▶ is incompatible with strong oxidisers, strong caustics, alkaline earths and alkali metals ▶ attacks some plastics, coatings and rubber ▶ may generate electrostatic charge due to low conductivity <p>Segregate from:</p> <ul style="list-style-type: none"> ▶ powdered metals such as aluminium, zinc and ▶ alkali metals such as sodium, potassium and lithium. <p>May attack, soften or dissolve rubber, many plastics, paints and coatings</p> <ul style="list-style-type: none"> ▶ Segregate from alcohol, water.

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	methylene chloride	Methylene chloride	50 ppm / 174 mg/m3	Not Available	Not Available	Not Available

EMERGENCY LIMITS


Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3

Continued...

Internal Standard Mix

methylene chloride	Methylene chloride; (Dichloromethane)	Not Available	Not Available	Not Available
Ingredient	Original IDLH	Revised IDLH		
methylene chloride	2,300 ppm / 2,000 ppm	Not Available		
acenaphthene-D10	Not Available	Not Available		
chrysene-D12	Not Available	Not Available		
1,4-dichlorobenzene-D4	Not Available	Not Available		
naphthalene-D8	Not Available	Not Available		
perylene-D12	Not Available	Not Available		
phenanthrene-D10	Not Available	Not Available		

Exposure controls

Appropriate engineering controls	<p>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.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>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.</p>
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber <p>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.</p> <p>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.</p> <p>Personal hygiene is a key element of effective hand care.</p>
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ Eyewash unit. ▶ Barrier cream. ▶ Skin cleansing cream.

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:

Internal Standard Mix

Material	CPI
PE/EVAL/PE	A
PVA	A
TEFLON	B
BUTYL	C
CPE	C
NATURAL RUBBER	C
NEOPRENE	C
VITON	C
VITON/BUTYL	C
VITON/CHLOROBUTYL	C

* 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.

Respiratory protection

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.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Not Available		
Physical state	Liquid	Relative density (Water = 1)	1.32
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	556
pH (as supplied)	Not Applicable	Decomposition temperature	Not Available
Melting point / freezing point (°C)	-97	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	40	Molecular weight (g/mol)	84.93
Flash point (°C)	>230	Taste	Not Available
Evaporation rate	27.5 BuAC = 1	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	23	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	12	Volatile Component (%vol)	100
Vapour pressure (kPa)	35.3 @20C	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	2.93	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	<p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation hazard is increased at higher temperatures.</p> <p>Acute intoxication by halogenated aliphatic hydrocarbons appears to take place over two stages. Signs of a reversible narcosis are evident in the first stage and in the second stage signs of injury to organs may become evident, a single organ alone is (almost) never involved.</p> <p>Inhalation exposure may cause susceptible individuals to show change in heart beat rhythm i.e. cardiac arrhythmia. Exposures must be terminated.</p> <p>The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.</p>
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.
Skin Contact	<p>The material may accentuate any pre-existing dermatitis condition</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>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.</p> <p>The material may cause severe 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.</p>
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	<p>Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.</p> <p>Dichloromethane exposures cause liver and kidney damage in animals and this justifies consideration before exposing persons with a history of impaired liver function and/or renal disorders.</p>

Internal Standard Mix	TOXICITY	IRRITATION
	Not Available	Not Available

methylene chloride	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye(rabbit): 162 mg - moderate
	Inhalation (rat) LC50: 76 mg/l/4h ^[2]	Eye(rabbit): 500 mg/24hr - mild
	Oral (rat) LD50: 985 mg/kg ^[2]	Skin (rabbit): 100mg/24hr-moderate Skin (rabbit): 810 mg/24hr-SEVERE
acenaphthene-D10	TOXICITY	IRRITATION
	Not Available	Not Available
chrysene-D12	TOXICITY	IRRITATION
	Not Available	Not Available
1,4-dichlorobenzene-D4	TOXICITY	IRRITATION
	Not Available	Not Available
naphthalene-D8	TOXICITY	IRRITATION
	dermal (rat) LD50: >2500 mg/kg ^[1]	Not Available
	Oral (rat) LD50: >2000 mg/kg ^[1]	
perylene-D12	TOXICITY	IRRITATION
	Not Available	Not Available
phenanthrene-D10	TOXICITY	IRRITATION
	Not Available	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 Effect of chemical Substances

METHYLENE CHLORIDE	The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause severe 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. Repeated exposures may produce severe ulceration. WARNING: This substance has been classified by the IARC as Group 2A: Probably Carcinogenic to Humans. Inhalation (human) TCLo: 500 ppm/ 1 y - I Eye(rabbit): 10 mg - mild
1,4-DICHLOROBENZENE-D4	1,2-DCB is quickly and extensively absorbed through both the gastrointestinal tract and the respiratory tract. Dermal absorption is believed to be very low. Following absorption, it is distributed throughout the body. Greatest levels have been found in the fat, kidney, and liver.
Internal Standard Mix & ACENAPHTHENE-D10 & PHENANTHRENE-D10	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.
Internal Standard Mix & METHYLENE CHLORIDE	

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: ✗ – Data available but does not fill the criteria for classification
 ✓ – Data available to make classification
 ⊗ – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Internal Standard Mix	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available

Internal Standard Mix

	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
methylene chloride	LC50	96	Fish	=13.1mg/L	1
	EC50	48	Crustacea	=108.5mg/L	1
	EC50	72	Algae or other aquatic plants	242mg/L	4
	NOEC	96	Algae or other aquatic plants	56mg/L	4
acenaphthene-D10	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
chrysene-D12	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
1,4-dichlorobenzene-D4	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
naphthalene-D8	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
perylene-D12	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
phenanthrene-D10	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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 Methylene Chloride: Log Kow: 1.25; Log Koc: 1.68; Log Kom: 1.44; Henry's atm m³/mol: 2.68E-03; Henry's Law Constant: 0.002 atm/m³/mol; BCF: 5.

Atmospheric Fate: Methylene chloride is a volatile liquid that tends to evaporate to the atmosphere from water and soil. The main degradation pathway for methylene chloride in air is via reactions with hydroxyl radicals the average atmospheric lifetime is estimated to be 130 days. Because this degradation pathway is relatively slow, methylene chloride may become widely dispersed but, is not likely to accumulate in the atmosphere.

The UK Department of Environment have established that methylene chloride is not a greenhouse gas and the Organisation for Economic Cooperation and Development (OECD) in a Monograph have affirmed that there was no single international view that risk reduction measures are required for the solvent. The Monograph suggests that alternatives may pose a greater risk to the environment.

In the atmosphere methylene chloride degrades by reaction with photochemically produced hydroxy radicals (half-life 6 months). Methylene chloride rapidly volatilises from water and soil to the atmosphere (estimated half-life for volatilisation from water 3-5.6 hours).

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
methylene chloride	LOW (Half-life = 56 days)	HIGH (Half-life = 191 days)
acenaphthene-D10	HIGH	HIGH
1,4-dichlorobenzene-D4	HIGH	HIGH
naphthalene-D8	HIGH	HIGH
phenanthrene-D10	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
methylene chloride	LOW (BCF = 40)
acenaphthene-D10	LOW (LogKOW = 3.467)
1,4-dichlorobenzene-D4	LOW (LogKOW = 3.282)
naphthalene-D8	LOW (LogKOW = 2.4848)
phenanthrene-D10	LOW (LogKOW = 2.9766)

Mobility in soil

Ingredient	Mobility
methylene chloride	LOW (KOC = 23.74)

acenaphthene-D10	LOW (KOC = 6123)
1,4-dichlorobenzene-D4	LOW (KOC = 434)
naphthalene-D8	LOW (KOC = 1837)
phenanthrene-D10	LOW (KOC = 20830)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

<p>Product / Packaging disposal</p>	<ul style="list-style-type: none"> ▶ Containers may still present a chemical hazard/ danger when empty. ▶ Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> ▶ 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. ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product. <p>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.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> ▶ Reduction ▶ Reuse ▶ Recycling ▶ Disposal (if all else fails) <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.</p> <ul style="list-style-type: none"> ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▶ Where in doubt contact the responsible authority. ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Authority for disposal. ▶ Bury or incinerate residue at an approved site. ▶ Recycle containers if possible, or dispose of in an authorised landfill.
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SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO
HAZCHEM	ZZ

Land transport (ADG)

UN number	1593				
UN proper shipping name	DICHLOROMETHANE				
Transport hazard class(es)	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Class</td> <td>6.1</td> </tr> <tr> <td>Subrisk</td> <td>Not Applicable</td> </tr> </table>	Class	6.1	Subrisk	Not Applicable
Class	6.1				
Subrisk	Not Applicable				
Packing group	III				
Environmental hazard	Not Applicable				
Special precautions for user	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Special provisions</td> <td>Not Applicable</td> </tr> <tr> <td>Limited quantity</td> <td>5 L</td> </tr> </table>	Special provisions	Not Applicable	Limited quantity	5 L
Special provisions	Not Applicable				
Limited quantity	5 L				

Air transport (ICAO-IATA / DGR)

UN number	1593								
UN proper shipping name	Dichloromethane								
Transport hazard class(es)	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">ICAO/IATA Class</td> <td>6.1</td> </tr> <tr> <td>ICAO / IATA Subrisk</td> <td>Not Applicable</td> </tr> <tr> <td>ERG Code</td> <td>6L</td> </tr> </table>	ICAO/IATA Class	6.1	ICAO / IATA Subrisk	Not Applicable	ERG Code	6L		
ICAO/IATA Class	6.1								
ICAO / IATA Subrisk	Not Applicable								
ERG Code	6L								
Packing group	III								
Environmental hazard	Not Applicable								
Special precautions for user	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Special provisions</td> <td>Not Applicable</td> </tr> <tr> <td>Cargo Only Packing Instructions</td> <td>663</td> </tr> <tr> <td>Cargo Only Maximum Qty / Pack</td> <td>220 L</td> </tr> <tr> <td>Passenger and Cargo Packing Instructions</td> <td>655</td> </tr> </table>	Special provisions	Not Applicable	Cargo Only Packing Instructions	663	Cargo Only Maximum Qty / Pack	220 L	Passenger and Cargo Packing Instructions	655
Special provisions	Not Applicable								
Cargo Only Packing Instructions	663								
Cargo Only Maximum Qty / Pack	220 L								
Passenger and Cargo Packing Instructions	655								

Internal Standard Mix

Passenger and Cargo Maximum Qty / Pack	60 L
Passenger and Cargo Limited Quantity Packing Instructions	Y642
Passenger and Cargo Limited Maximum Qty / Pack	2 L

Sea transport (IMDG-Code / GGVSee)

UN number	1593	
UN proper shipping name	DICHLOROMETHANE	
Transport hazard class(es)	IMDG Class	6.1
	IMDG Subrisk	Not Applicable
Packing group	III	
Environmental hazard	Not Applicable	
Special precautions for user	EMS Number	F-A , S-A
	Special provisions	Not Applicable
	Limited Quantities	5 L

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

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

METHYLENE CHLORIDE(75-09-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Part 2, Section Seven - Appendix I
Australia Inventory of Chemical Substances (AICS)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

ACENAPHTHENE-D10(15067-26-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

CHRYSENE-D12(1719-03-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

1,4-DICHLOROBENZENE-D4(3855-82-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

NAPHTHALENE-D8(1146-65-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix G
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)	

PERYLENE-D12(1520-96-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

PHENANTHRENE-D10(1517-22-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AICS	N (1,4-dichlorobenzene-D4; chrysene-D12; phenanthrene-D10; naphthalene-D8; acenaphthene-D10; perylene-D12)
Canada - DSL	N (1,4-dichlorobenzene-D4; chrysene-D12; phenanthrene-D10; naphthalene-D8; acenaphthene-D10; perylene-D12)
Canada - NDSL	N (1,4-dichlorobenzene-D4; methylene chloride; chrysene-D12; phenanthrene-D10; naphthalene-D8; acenaphthene-D10; perylene-D12)
China - IECSC	N (1,4-dichlorobenzene-D4; chrysene-D12; phenanthrene-D10; naphthalene-D8; acenaphthene-D10; perylene-D12)
Europe - EINEC / ELINCS / NLP	N (1,4-dichlorobenzene-D4; chrysene-D12; phenanthrene-D10; acenaphthene-D10; perylene-D12)
Japan - ENCS	N (chrysene-D12; phenanthrene-D10; naphthalene-D8; acenaphthene-D10; perylene-D12)
Korea - KECI	N (1,4-dichlorobenzene-D4; chrysene-D12; phenanthrene-D10; naphthalene-D8; acenaphthene-D10; perylene-D12)
New Zealand - NZIoC	N (1,4-dichlorobenzene-D4; chrysene-D12; phenanthrene-D10; acenaphthene-D10; perylene-D12)
Philippines - PICCS	N (1,4-dichlorobenzene-D4; chrysene-D12; phenanthrene-D10; naphthalene-D8; acenaphthene-D10; perylene-D12)
USA - TSCA	N (1,4-dichlorobenzene-D4; chrysene-D12; phenanthrene-D10; naphthalene-D8; acenaphthene-D10; perylene-D12)
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

Continued...

SECTION 16 OTHER INFORMATION

Revision Date	22/08/2018
Initial Date	22/08/2018

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
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

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