

F-190 PART A

BARNES PRODUCTS PTY LTD

Chemwatch Hazard Alert Code: 3

Chemwatch: 72-8023

Version No: 6.1

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

Issue Date: 20/03/2023

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S.GHS.NZL.EN.E

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

Product Identifier

Product name	F-190 PART A
Chemical Name	Not Applicable
Synonyms	F-190 REV 1 PART A
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains toluene diisocyanate, chlorinated paraffin, long chain grades, toluene-2,4-diisocyanate, solvent naphtha petroleum, heavy aromatic and toluene-2,6-diisocyanate)
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	Polyurethane resin.
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Details of the manufacturer or supplier of the safety data sheet

Registered company name	BARNES PRODUCTS PTY LTD
Address	5 GREENHILLS AVE MOOREBANK NSW 2170 Australia
Telephone	Barnes Australia +612 9793 7555 Mon-Fri 8am-4:30pm
Fax	Barnes Australia +612 9793 7091
Website	www.barnesnz.co.nz
Email	sales@barnes.com.au

Emergency telephone number


Association / Organisation	New Zealand Poisons Information Centre
Emergency telephone numbers	Barnes NZ +649 9731 816 - Monday-Thursday 9am-5pm Friday 9am-4.30pm
Other emergency telephone numbers	New Zealand Poisons Information Centre 0800 764 766 After Hours

SECTION 2 Hazards identification

Classification of the substance or mixture

Classification [1]	Carcinogenicity Category 2, Reproductive Toxicity Category 2, Hazardous to the Aquatic Environment Long-Term Hazard 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	6.7B, 6.8B, 9.1C

Label elements

Hazard pictogram(s)	
Signal word	Warning

Hazard statement(s)

H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P280	Wear protective gloves and protective clothing.
P273	Avoid release to the environment.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/ attention.
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Precautionary statement(s) Storage

P405	Store locked up.
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Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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SECTION 3 Composition / information on ingredients**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
63449-39-8	5-10	<u>chlorinated paraffin, long chain grades</u>
84-74-2	<5	<u>dibutyl phthalate</u>
64742-94-5	<2.5	<u>solvent naphtha petroleum, heavy aromatic</u>
91-20-3	<0.25	<u>naphthalene</u>
26471-62-5	<0.03	<u>toluene diisocyanate</u>
91-08-7	<0.02	<u>toluene-2,6-diisocyanate</u>
584-84-9	<0.02	<u>toluene-2,4-diisocyanate</u>
Not Available	balance	#30nonhaz
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	<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. <p>Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. A physician should be consulted.</p>
Ingestion	<ul style="list-style-type: none"> If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.

Indication of any immediate medical attention and special treatment needed

for naphthalene intoxication: Naphthalene requires hepatic and microsomal activation prior to the production of toxic effects. Liver microsomes catalyse the initial synthesis of the reactive 1,2-epoxide intermediate which is subsequently oxidised to naphthalene dihydrodiol and alpha-naphthol. The 2-naphthoquinones are thought to produce haemolysis, the 1,2-naphthoquinones are thought to be responsible for producing cataracts in rabbits, and the glutathione-adducts of naphthalene-1,2-oxide are probably responsible for pulmonary toxicity. Suggested treatment regime:

- Induce emesis and/or perform gastric lavage with large amounts of warm water where oral poisoning is suspected.
- Instill a saline cathartic such as magnesium or sodium sulfate in water (15 to 30g).
- Demulcents such as milk, egg white, gelatin, or other protein solutions may be useful after the stomach is emptied but oils should be avoided because they promote absorption.
- If eyes/skin contaminated, flush with warm water followed by the application of a bland ointment.
- Severe anaemia, due to haemolysis, may require small repeated blood transfusions, preferably with red cells from a non-sensitive individual.
- Where intravascular haemolysis, with haemoglobinuria occurs, protect the kidneys by promoting a brisk flow of dilute urine with, for example, an osmotic diuretic such as mannitol. It may be useful to alkalise the urine with small amounts of sodium bicarbonate but many researchers doubt whether this prevents blockage of the renal tubules.

- ▶ Use supportive measures in the case of acute renal failure. GOSSELIN, SMITH HODGE: Clinical Toxicology of Commercial Products, 5th Ed.

SECTION 5 Firefighting measures

Extinguishing media

- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.
- ▶ Water spray or fog - Large fires only.

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
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Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear full body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ Use water delivered as a fine spray to control fire and cool adjacent area. ▶ Avoid spraying water onto liquid pools. ▶ DO NOT approach containers suspected to be hot. ▶ Cool fire exposed containers with water spray from a protected location.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▶ Combustible. ▶ Slight fire hazard when exposed to heat or flame. ▶ Heating may cause expansion or decomposition leading to violent rupture of containers. ▶ On combustion, may emit toxic fumes of carbon monoxide (CO). ▶ May emit acrid smoke. ▶ Mists containing combustible materials may be explosive. <p>Combustion products include: carbon dioxide (CO₂) isocyanates and minor amounts of hydrogen cyanide nitrogen oxides (NO_x) other pyrolysis products typical of burning organic material.</p>

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	<p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. ▶ Control personal contact with the substance, by using protective equipment. ▶ Contain and absorb spill with sand, earth, inert material or vermiculite. ▶ Wipe up. ▶ Place in a suitable, labelled container for waste disposal.
Major Spills	<p>Environmental hazard - contain spillage. Moderate hazard.</p> <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 course. ▶ No smoking, naked lights or ignition sources. ▶ Increase ventilation.

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

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> · Electrostatic discharge may be generated during pumping - this may result in fire. · Ensure electrical continuity by bonding and grounding (earthing) all equipment. · Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<=1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec). · Avoid splash filling. · Do NOT use compressed air for filling discharging or handling operations. · Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. · Wait 30 minutes after tank filling (for large storage tanks) before opening hatches or manholes. ▶ Avoid all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area.
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	<ul style="list-style-type: none"> ▶ Prevent concentration in hollows and sumps. ▶ DO NOT enter confined spaces until atmosphere has been checked. ▶ Avoid smoking, naked lights or ignition sources. ▶ Avoid contact with incompatible materials.
Other information	<p>Consider storage under inert gas.</p> <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. ▶ Protect containers against physical damage and check regularly for leaks. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▶ Metal can or drum ▶ Packaging as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<p>Phthalates:</p> <ul style="list-style-type: none"> ▶ react with strong acids, strong oxidisers, permanganates and nitrates ▶ attack some form of plastics ▶ Segregate from alcohol, water. ▶ Avoid reaction with oxidising agents ▶ NOTE: May develop pressure in containers; open carefully. Vent periodically.

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)	dibutyl phthalate	Dibutyl phthalate	0.05 ppm / 0.58 mg/m ³	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	naphthalene	Naphthalene	0.5 ppm / 2.6 mg/m ³	10 mg/m ³ / 2 ppm	Not Available	carcinogen category 2 - Suspected human carcinogen (skin) - Skin absorption
New Zealand Workplace Exposure Standards (WES)	toluene diisocyanate	Toluene-2,4-diisocyanate	0.02 mg/m ³	0.07 mg/m ³	Not Available	(dsen) - Dermal sensitiser (rsen) - Respiratory sensitiser (ifv) - The Inhalable Fraction and Vapour (ifv) notation is used when a material exerts sufficient vapour pressure such that it may be present in both particle and vapour phases, with each contributing to a significant portion of exposure
New Zealand Workplace Exposure Standards (WES)	toluene diisocyanate	Toluene-2,6-diisocyanate	0.02 mg/m ³	0.07 mg/m ³	Not Available	(dsen) - Dermal sensitiser (rsen) - Respiratory sensitiser (ifv) - The Inhalable Fraction and Vapour (ifv) notation is used when a material exerts sufficient vapour pressure such that it may be present in both particle and vapour phases, with each contributing to a significant portion of exposure
New Zealand Workplace Exposure Standards (WES)	toluene-2,6-diisocyanate	Toluene-2,6-diisocyanate	0.02 mg/m ³	0.07 mg/m ³	Not Available	(dsen) - Dermal sensitiser (rsen) - Respiratory sensitiser (ifv) - The Inhalable Fraction and Vapour (ifv) notation is used when a material exerts sufficient vapour pressure such that it may be present in both particle and vapour phases, with each contributing to a significant portion of exposure
New Zealand Workplace Exposure Standards (WES)	toluene-2,4-diisocyanate	Toluene-2,4-diisocyanate	0.02 mg/m ³	0.07 mg/m ³	Not Available	(dsen) - Dermal sensitiser (rsen) - Respiratory sensitiser (ifv) - The Inhalable Fraction and Vapour (ifv) notation is used when a material exerts sufficient vapour pressure such that it may be present in both particle and vapour phases, with each contributing to a significant portion of exposure


Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
dibutyl phthalate	15 mg/m ³	1,600 mg/m ³	9300* mg/m ³
naphthalene	15 ppm	83 ppm	500 ppm
toluene diisocyanate	0.02 ppm	0.083 ppm	0.51 ppm
toluene diisocyanate	Not Available	Not Available	Not Available
toluene diisocyanate	Not Available	Not Available	Not Available
toluene-2,6-diisocyanate	Not Available	Not Available	Not Available
toluene-2,4-diisocyanate	0.02 ppm	0.083 ppm	0.51 ppm
toluene-2,4-diisocyanate	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
chlorinated paraffin, long chain grades	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
dibutyl phthalate	4,000 mg/m ³	Not Available
solvent naphtha petroleum, heavy aromatic	Not Available	Not Available
naphthalene	250 ppm	Not Available
toluene diisocyanate	2.5 ppm	Not Available
toluene-2,6-diisocyanate	Not Available	Not Available
toluene-2,4-diisocyanate	2.5 ppm	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. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p>
Individual protection measures, such as personal protective equipment	
Eye and face protection	<ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable.
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. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p>
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C apron. ▶ Barrier cream. ▶ Skin cleansing cream. ▶ Eye wash unit.

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:

F-190 PART A

Material	CPI
BUTYL	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
PE/EVAL/PE	C
PVA	C
SARANEX-23	C
TEFLON	C
VITON	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. -

Respiratory protection

Type A-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	A-AUS P2	-	A-PAPR-AUS / Class 1 P2
up to 50 x ES	-	A-AUS / Class 1 P2	-
up to 100 x ES	-	A-2 P2	A-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

* 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.

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

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear to pale yellow viscous liquid with slight aromatic hydrocarbon odour; slightly reacts with water.		
Physical state	Liquid	Relative density (Water = 1)	1.090 @25C
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	6540.000 @25C
Initial boiling point and boiling range (°C)	>250	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	110 (PMCC)	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	<0.133 @21C	Gas group	Not Available
Solubility in water	Reacts	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	Not Available	VOC g/L	24

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	Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual.
Skin Contact	<p>Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.</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>
Eye	There is some evidence to suggest that this material can cause eye irritation and damage in some persons.
Chronic	<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>Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material.</p> <p>Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.</p> <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p>

F-190 PART A	TOXICITY	IRRITATION
	Not Available	Not Available
chlorinated paraffin, long chain grades	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >10000 mg/kg ^[2] Oral (Mouse) LD50: 21800 mg/kg ^[2]	Not Available
dibutyl phthalate	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1]

	Inhalation(Rat) LC50: \geq 15.68 mg/14h ^[1]	Skin: no adverse effect observed (not irritating) ^[1]
	Oral (Rat) LD50: 8000 mg/kg ^[2]	
solvent naphtha petroleum, heavy aromatic	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[2]	Eye (rabbit): Irritating [PETROFIN]
	Inhalation(Rat) LC50: >0.003 mg/L4h ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (Rat) LD50: >2000 mg/kg ^[1]	Skin: adverse effect observed (irritating) ^[1]
naphthalene	TOXICITY	IRRITATION
	dermal (rat) LD50: >2500 mg/kg ^[2]	Eye (rabbit): 100 mg - mild
	Inhalation(Rat) LC50: >0.4 mg/14h ^[1]	Skin (rabbit):495 mg (open) - mild
	Oral (Rat) LD50: 490 mg/kg ^[2]	
toluene diisocyanate	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >9400 mg/kg ^[1]	Eye: adverse effect observed (irritating) ^[1]
	Inhalation(Mouse) LC50: 0.069 mg/L4h ^[2]	Skin: adverse effect observed (irritating) ^[1]
	Oral (Rat) LD50: >2000 mg/kg ^[1]	
toluene-2,6-diisocyanate	TOXICITY	IRRITATION
	Oral (Rat) LD50: >2000 mg/kg ^[1]	Eye: adverse effect observed (irritating) ^[1]
		Skin: adverse effect observed (irritating) ^[1]
toluene-2,4-diisocyanate	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): 100 mg - SEVERE
	Inhalation(Mouse) LC50: 10 ppm4h ^[2]	Eye: adverse effect observed (irritating) ^[1]
	Oral (Rat) LD50: >2000 mg/kg ^[1]	Skin (rabbit): 500 mg(open)-SEVERE
		Skin (rabbit):500 mg/24hr-moderate
	Skin: adverse effect observed (irritating) ^[1]	
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	

CHLORINATED PARAFFIN, LONG CHAIN GRADES	<p>Oral (rat) LD50: >4000 mg/kg [I.C.I.] Cereclor range: Chlorinated paraffin waxes represents a family of substances which vary in molecular weight. Studies using the C12, 59% chlorinated variant (in combination with corn oil) caused tumors when force fed at very high doses over long periods of time. The C24, 43% chlorinated paraffin under the same conditions caused an increase in tumors only in the male mouse. A 13 week dietary, range finding study was conducted on rats with a C24, 70% chlorinated paraffin. This study established a no effect level of 900 mg/kg/day. Pregnant rats fed C16, 52% chlorinated paraffin had offspring which died during weaning.</p> <p>C12, 60% Chlorinated paraffin is classified by IARC as possibly causing cancer in humans. In experimental animals, oral exposure to its C12, 59% variant plus corn oil produced tumour and early infant death.</p> <p>High molecular weight liquid chloroparaffins are considered to be practically non-harmful. Special consideration should be given to solid grades of the material (eg Cereclor 70) because of relatively high levels of carbon tetrachloride remaining as a residual reactant. Vapours are readily absorbed through intact skin, requiring additional precautions in handling.</p> <p>Lifetime studies have been carried out with two grades of chlorinated paraffins. A short-chain grade with 58% chlorine caused tumours in rats and mice. Male mice exposed to long-chain grades with 40% chlorine showed an excess of tumours at one site. It has been shown that the mechanisms by which short-term paraffins cause tumours are specific to rodents and may not have relevance to human health. Furthermore, chlorinated paraffins have been shown to non-genotoxic.</p> <p>The Regulatory regime in various countries differs with respected to chlorinated paraffins.</p> <p>In the USA, the short-chain (C12), 58% chlorine product has been classified and labelled as a carcinogen.</p> <p>In Germany the MAK Commission has classified most chlorinated paraffins as Category IIIB (suspect carcinogens).</p>
DIBUTYL PHTHALATE	<p>For dibutyl phthalate (DBP):</p> <p>In studies on rats, DBP is absorbed through the skin, although studies have shown human skin is less permeable. Animal testing shows DBP is rapidly absorbed from the gastrointestinal tract, distributed mainly in the liver and kidneys and excreted in urine as breakdown products if given orally or through a vein. Accumulation has not been observed in any organ. The profile of effects following exposure to DBP is similar to that of other phthalate esters, which, in susceptible species, can cause enlarged liver, toxicity to the foetus, birth defects, and damage to the testicles.</p> <p>Acute toxicity: Animal testing shows that acute toxicity of DBP is low. Signs of acute toxicity include depression of activity, labored breathing and lack of co-ordination. DBP appears to have little potential to irritate skin or eyes or to induce sensitization. A few cases of sensitization after exposure to DBP have been reported.</p> <p>Repeat dose toxicity: Animal testing shows repeat exposure to DBP caused enlarged liver and peroxisome proliferation, The testicles were also affected.</p> <p>Developmental toxicity: In animal testing, DBP resulted in reduced weight in offspring and malformations of the male genitalia and testicle function that were not seen in parent animals.</p> <p>The material may produce peroxisome proliferation. Peroxisomes are single, membrane limited organelles in the cytoplasm that are found in the cells of animals, plants, fungi, and protozoa.</p> <p>Available data indicate that phthalate esters are minimally toxic by swallowing, inhalation and skin contact. Repeated exposure may result in weight gain, liver enlargement and induction of liver enzymes. They may also cause shrinking of the testicles and other structural malformations. They may reduce male and female fertility and number of live births, according to animal testing.</p>
SOLVENT NAPHTHA PETROLEUM, HEAVY AROMATIC	<p>Animal studies indicate that normal, branched and cyclic paraffins are absorbed from the gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins.</p> <p>The major classes of hydrocarbons are well absorbed into the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with fats in the diet. Some hydrocarbons may appear unchanged as in the lipoprotein particles in the gut lymph, but most hydrocarbons partly separate from fats and undergo metabolism in the gut cell. The gut cell may play a major role in</p>

	<p>determining the proportion of hydrocarbon that becomes available to be deposited unchanged in peripheral tissues such as in the body fat stores or the liver.</p> <p>For petroleum: This product contains benzene, which can cause acute myeloid leukaemia, and n-hexane, which can be metabolized to compounds which are toxic to the nervous system. This product contains toluene, and animal studies suggest high concentrations of toluene lead to hearing loss. This product contains ethyl benzene and naphthalene, from which animal testing shows evidence of tumour formation.</p> <p>Cancer-causing potential: Animal testing shows inhaling petroleum causes tumours of the liver and kidney; these are however not considered to be relevant in humans.</p> <p>Mutation-causing potential: Most studies involving gasoline have returned negative results regarding the potential to cause mutations, including all recent studies in living human subjects (such as in petrol service station attendants).</p> <p>Reproductive toxicity: Animal studies show that high concentrations of toluene (>0.1%) can cause developmental effects such as lower birth weight and developmental toxicity to the nervous system of the foetus. Other studies show no adverse effects on the foetus.</p> <p>Human effects: Prolonged or repeated contact may cause defatting of the skin which can lead to skin inflammation and may make the skin more susceptible to irritation and penetration by other materials.</p> <p>Animal testing shows that exposure to gasoline over a lifetime can cause kidney cancer, but the relevance in humans is questionable.</p>		
NAPHTHALENE	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.		
TOLUENE-2,6-DIISOCYANATE	Hamster ovary cell mutagen in vitro.		
TOLUENE-2,4-DIISOCYANATE	Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen [National Toxicology Program: U.S. Dep. of Health & Human Services 2002]		
CHLORINATED PARAFFIN, LONG CHAIN GRADES & NAPHTHALENE & TOLUENE-2,4-DIISOCYANATE	WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.		
CHLORINATED PARAFFIN, LONG CHAIN GRADES & NAPHTHALENE	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.		
TOLUENE DIISOCYANATE & TOLUENE-2,6-DIISOCYANATE & TOLUENE-2,4-DIISOCYANATE	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>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. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.</p> <p>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. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.</p> <p>Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Allergy causing activity is due to interactions with proteins.</p> <p>Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema.</p> <p>Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure.</p> <p>Isocyanate vapours are irritating to the airways and can cause their inflammation, with wheezing, gasping, severe distress, even loss of consciousness and fluid in the lungs. Nervous system symptoms that may occur include headache, sleep disturbance, euphoria, inco-ordination, anxiety, depression and paranoia.</p> <p>Aromatic and aliphatic diisocyanates may cause airway toxicity and skin sensitization. Monomers and prepolymers exhibit similar respiratory effect. Of the several members of diisocyanates tested on experimental animals by inhalation and oral exposure, some caused cancer while others produced a harmless outcome. This group of compounds has therefore been classified as cancer-causing.</p>		
TOLUENE DIISOCYANATE & TOLUENE-2,4-DIISOCYANATE	<p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>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.</p>		
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 either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

F-190 PART A	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

chlorinated paraffin, long chain grades	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	>0.0109mg/l	4

	EC50	96h	Algae or other aquatic plants	>3.2mg/l	2
	NOEC(ECx)	504h	Crustacea	~0.002mg/l	2
	EC50	72h	Algae or other aquatic plants	>3.2mg/l	2
dibutyl phthalate	Endpoint	Test Duration (hr)	Species	Value	Source
	ErC50	72h	Algae or other aquatic plants	1.2mg/l	1
	BCF	1344h	Fish	3.1-21.2	7
	NOEC(ECx)	72h	Algae or other aquatic plants	0.5mg/l	1
	EC50	96h	Algae or other aquatic plants	0.0034mg/l	4
	EC50	72h	Algae or other aquatic plants	1.2mg/l	1
	LC50	96h	Fish	0.28-0.44mg/l	4
	EC50	48h	Crustacea	3.4mg/l	1
solvent naphtha petroleum, heavy aromatic	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50(ECx)	48h	Crustacea	0.95mg/l	1
	EC50	72h	Algae or other aquatic plants	<1mg/l	1
	LC50	96h	Fish	2-5mg/l	Not Available
	EC50	96h	Algae or other aquatic plants	11.7mg/l	2
naphthalene	Endpoint	Test Duration (hr)	Species	Value	Source
	BCF	1344h	Fish	23-146	7
	EC50(ECx)	0.05h	Crustacea	<0.000001mg/l	4
	EC50	72h	Algae or other aquatic plants	ca.0.4mg/l	1
	EC50	48h	Crustacea	1.09-3.4mg/l	4
toluene diisocyanate	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	504h	Crustacea	0.5mg/l	2
	EC50	96h	Algae or other aquatic plants	3230mg/l	1
	LC50	96h	Fish	~0.4mg/l	2
	EC50	48h	Crustacea	12.5mg/l	1
toluene-2,6-diisocyanate	Endpoint	Test Duration (hr)	Species	Value	Source
	EC0(ECx)	48h	Crustacea	1.6mg/l	2
	EC50	72h	Algae or other aquatic plants	37.121mg/l	2
	EC50	48h	Crustacea	12.5mg/l	2
toluene-2,4-diisocyanate	Endpoint	Test Duration (hr)	Species	Value	Source
	BCF	1440h	Fish	25-380	7
	NOEC(ECx)	504h	Crustacea	0.5mg/l	2
	EC50	96h	Algae or other aquatic plants	3230mg/l	2
	LC50	96h	Fish	108.8-240.4mg/l	4
	EC50	48h	Crustacea	12.5mg/l	2
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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				

On the basis of available evidence concerning either toxicity, persistence, potential to accumulate and/or observed environmental fate and behaviour, the material may present a danger, immediate or long-term and/or delayed, to the structure and/or functioning of natural ecosystems.

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

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
dibutyl phthalate	LOW (Half-life = 23 days)	LOW (Half-life = 3.08 days)
naphthalene	HIGH (Half-life = 258 days)	LOW (Half-life = 1.23 days)
toluene diisocyanate	LOW (Half-life = 1 days)	LOW (Half-life = 0.13 days)
toluene-2,6-diisocyanate	LOW (Half-life = 1 days)	LOW (Half-life = 0.13 days)
toluene-2,4-diisocyanate	HIGH	HIGH

Bioaccumulative potential

Continued...

Ingredient	Bioaccumulation
dibutyl phthalate	LOW (BCF = 176)
solvent naphtha petroleum, heavy aromatic	LOW (BCF = 159)
naphthalene	HIGH (BCF = 18000)
toluene diisocyanate	LOW (BCF = 5)
toluene-2,6-diisocyanate	LOW (LogKOW = 3.7403)
toluene-2,4-diisocyanate	LOW (BCF = 5)

Mobility in soil

Ingredient	Mobility
dibutyl phthalate	LOW (KOC = 1460)
naphthalene	LOW (KOC = 1837)
toluene diisocyanate	LOW (KOC = 9114)
toluene-2,6-diisocyanate	LOW (KOC = 9303)
toluene-2,4-diisocyanate	LOW (KOC = 9114)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<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. ▶ 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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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. Only dispose to the environment if a tolerable exposure limit has been set for the substance.

Only deposit the hazardous substance into or onto a landfill or sewage facility or incinerator, where the hazardous substance can be handled and treated appropriately.

A person must not dispose of a hazardous substance that is or contains halogenated organic compounds by incineration below 850°C.

SECTION 14 Transport information

Labels Required

	
Marine Pollutant	NO
HAZCHEM	*3Z

Land transport (UN)

UN number or ID number	3082	
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains toluene diisocyanate, chlorinated paraffin, long chain grades, toluene-2,4-diisocyanate, solvent naphtha petroleum, heavy aromatic and toluene-2,6-diisocyanate)	
Transport hazard class(es)	Class	9
	Subsidiary risk	Not Applicable
Packing group	III	
Environmental hazard	Not Applicable	
Special precautions for user	Special provisions	274; 331; 335; 375
	Limited quantity	5 L

Air transport (ICAO-IATA / DGR)

UN number	3082	
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (contains toluene diisocyanate, chlorinated paraffin, long chain grades, toluene-2,4-diisocyanate, solvent naphtha petroleum, heavy aromatic and toluene-2,6-diisocyanate)	
Transport hazard class(es)	ICAO/IATA Class	9
	ICAO / IATA Subrisk	Not Applicable
	ERG Code	9L
Packing group	III	
Environmental hazard	Not Applicable	
Special precautions for user	Special provisions	A97 A158 A197 A215
	Cargo Only Packing Instructions	964
	Cargo Only Maximum Qty / Pack	450 L
	Passenger and Cargo Packing Instructions	964
	Passenger and Cargo Maximum Qty / Pack	450 L
	Passenger and Cargo Limited Quantity Packing Instructions	Y964
	Passenger and Cargo Limited Maximum Qty / Pack	30 kg G

Sea transport (IMDG-Code / GGVSee)

UN number	3082	
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains toluene diisocyanate, chlorinated paraffin, long chain grades, toluene-2,4-diisocyanate, solvent naphtha petroleum, heavy aromatic and toluene-2,6-diisocyanate)	
Transport hazard class(es)	IMDG Class	9
	IMDG Subrisk	Not Applicable
Packing group	III	
Environmental hazard	Not Applicable	
Special precautions for user	EMS Number	F-A, S-F
	Special provisions	274 335 969
	Limited Quantities	5 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
chlorinated paraffin, long chain grades	Not Available
dibutyl phthalate	Not Available
solvent naphtha petroleum, heavy aromatic	Not Available
naphthalene	Not Available
toluene diisocyanate	Not Available
toluene-2,6-diisocyanate	Not Available
toluene-2,4-diisocyanate	Not Available

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
chlorinated paraffin, long chain grades	Not Available
dibutyl phthalate	Not Available
solvent naphtha petroleum, heavy aromatic	Not Available
naphthalene	Not Available
toluene diisocyanate	Not Available
toluene-2,6-diisocyanate	Not Available
toluene-2,4-diisocyanate	Not Available

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
HSR002521	Animal Nutritional and Animal Care Products Group Standard 2020
HSR002531	Cleaning Products Carcinogenic Group Standard 2020
HSR002512	Additives Process Chemicals and Raw Materials Carcinogenic Group Standard 2020
HSR002607	Lubricants Carcinogenic Group Standard 2020
HSR002616	Metal Industry Products Carcinogenic Group Standard 2020
HSR002639	Photographic Chemicals Carcinogenic Group Standard 2020
HSR002646	Polymers Carcinogenic Group Standard 2020
HSR002647	Reagent Kits Group Standard 2020
HSR002648	Refining Catalysts Group Standard 2020
HSR002655	Solvents Carcinogenic Group Standard 2020
HSR002679	Surface Coatings and Colourants Carcinogenic Group Standard 2020
HSR002687	Water Treatment Chemicals Carcinogenic Group Standard 2020
HSR100425	Pharmaceutical Active Ingredients Group Standard 2020
HSR002601	Leather and Textile Products Carcinogenic Group Standard 2020
HSR002551	Corrosion Inhibitors Carcinogenic Group Standard 2020
HSR002552	Cosmetic Products Group Standard 2020
HSR002560	Dental Products Carcinogenic Group Standard 2020
HSR002568	Embalming Products Carcinogenic Group Standard 2020
HSR002586	Fuel Additives Carcinogenic Group Standard 2020
HSR002596	Laboratory Chemicals and Reagent Kits Group Standard 2020
HSR100757	Veterinary Medicines Limited Pack Size Finished Dose Group Standard 2020
HSR100758	Veterinary Medicines Non dispersive Closed System Application Group Standard 2020
HSR100759	Veterinary Medicines Non dispersive Open System Application Group Standard 2020

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

chlorinated paraffin, long chain grades is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans
New Zealand Inventory of Chemicals (NZIoC)

dibutyl phthalate is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

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)

solvent naphtha petroleum, heavy aromatic 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 Inventory of Chemicals (NZIoC)

naphthalene is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

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

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 Workplace Exposure Standards (WES)

toluene diisocyanate is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

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

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)

toluene-2,6-diisocyanate is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

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)

toluene-2,4-diisocyanate is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans
 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)

Hazardous Substance Location

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

Hazard Class	Quantities
Not Applicable	Not Applicable

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
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Tracking Requirements

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (chlorinated paraffin, long chain grades; dibutyl phthalate; solvent naphtha petroleum, heavy aromatic; naphthalene; toluene diisocyanate; toluene-2,6-diisocyanate; toluene-2,4-diisocyanate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	No (naphthalene)
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
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	20/03/2023
Initial Date	10/03/2017

SDS Version Summary

Version	Date of Update	Sections Updated
5.1	23/12/2022	Classification review due to GHS Revision change.
6.1	20/03/2023	Hazards identification - Classification, Identification of the substance / mixture and of the company / undertaking - Supplier Information, Identification of the substance / mixture and of the company / undertaking - Synonyms, Name

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
AIIIC: 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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