RS Pro Red Conformal Coating #831-141 (AUS)

RS Components

Chemwatch Hazard Alert Code: **3**

Chemwatch: **5400-60**
Version No: **2.1.1.1**
Safety Data Sheet according to WHS and ADG requirements

Issue Date: **27/03/2020**
Print Date: **31/03/2020**
L.GHS.AUS.EN

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

Product Identifier

Product name	RS Pro Red Conformal Coating #831-141 (AUS)
Synonyms	Not Available
Proper shipping name	AEROSOLS
Other means of identification	Not Available

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

Relevant identified uses	Appliance protection.

Details of the supplier of the safety data sheet

Registered company name	**RS Components**
Address	25 Pavesi Street Smithfield NSW 2164 Australia
Telephone	+1 300 656 636
Fax	+1 300 656 696
Website	Not Available
Email	Not Available

Emergency telephone number

Association / Organisation	**CHEMWATCH EMERGENCY RESPONSE**
Emergency telephone numbers	+61 1800 951 288
Other emergency telephone numbers	+61 2 9186 1132

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

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

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

CHEMWATCH HAZARD RATINGS

		Min	Max
Flammability	3		
Toxicity	2		
Body Contact	2		
Reactivity	1		
Chronic	3		

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

Poisons Schedule	S5
Classification [1]	Flammable Aerosols Category 1, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Germ cell mutagenicity Category 2, Carcinogenicity Category 1A, Specific target organ toxicity - single exposure Category 3 (narcotic effects), Acute Aquatic Hazard Category 1, Chronic Aquatic Hazard Category 1
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI*

Label elements

Continued...

Hazard pictogram(s)	
SIGNAL WORD	**DANGER**

Hazard statement(s)

H222	Extremely flammable aerosol.
H332	Harmful if inhaled.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H336	May cause drowsiness or dizziness.
H410	Very toxic to aquatic life with long lasting effects.
AUH044	Risk of explosion if heated under confinement.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Pressurized container: Do not pierce or burn, even after use.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/attention.
P321	Specific treatment (see advice on this label).
P362	Take off contaminated clothing and wash before reuse.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

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

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
1330-20-7	10-30	xylene
110-82-7	10-30	cyclohexane
107-98-2	5-10	propylene glycol monomethyl ether - alpha isomer
1309-37-1	5-10	ferric oxide
100-41-4	1-5	ethylbenzene
64742-49-0.	1-5	naphtha petroleum, light, hydrotreated
13463-67-7	1-5	titanium dioxide
67-63-0	<1	isopropanol
96-29-7	<1	methyl ethyl ketoxime
80-62-6	<1	methyl methacrylate
108-65-6	<1	propylene glycol monomethyl ether acetate, alpha-isomer
64359-81-5	<1	4,5-dichloro-2-octyl-3(2H)-isothiazolone
115-10-6	30-60	dimethyl ether

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Continued...

Eye Contact	If aerosols come in contact with the eyes: ▸ Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes with fresh running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Transport to hospital or doctor without delay. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If solids or aerosol mists are deposited upon the skin: ▸ Flush skin and hair with running water (and soap if available). ▸ Remove any adhering solids with industrial skin cleansing cream. ▸ **DO NOT** use solvents. ▸ Seek medical attention in the event of irritation.
Inhalation	If aerosols, fumes or combustion products are inhaled: ▸ Remove to fresh air. ▸ Lay patient down. Keep warm and rested. ▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▸ If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▸ Transport to hospital, or doctor.
Ingestion	▸ For advice, contact a Poisons Information Centre or a doctor at once. ▸ Urgent hospital treatment is likely to be needed. ▸ If swallowed do **NOT** induce vomiting. ▸ 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. ▸ Transport to hospital or doctor without delay.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

SMALL FIRE:
▸ Water spray, dry chemical or CO2
LARGE FIRE:
▸ Water spray or fog.
▸ Alcohol stable foam.
▸ Dry chemical powder.
▸ BCF (where regulations permit).
▸ Carbon dioxide.
Do not use water jets.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▸ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Advice for firefighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ May be violently or explosively reactive. ▸ Wear breathing apparatus plus protective gloves. ▸ Prevent, by any means available, spillage from entering drains or water course.
Fire/Explosion Hazard	▸ Liquid and vapour are highly flammable. ▸ Severe fire hazard when exposed to heat or flame. ▸ Vapour forms an explosive mixture with air. ▸ Severe explosion hazard, in the form of vapour, when exposed to flame or spark. Combustion products include: carbon dioxide (CO_2) nitrogen oxides (NO_x) metal oxides other pyrolysis products typical of burning organic material. May emit poisonous fumes. **Contains low boiling substance:** Closed containers may rupture due to pressure buildup under fire conditions.
HAZCHEM	Not Applicable

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	Environmental hazard - contain spillage. ▸ Clean up all spills immediately. ▸ Avoid breathing vapours and contact with skin and eyes. ▸ Wear protective clothing, impervious gloves and safety glasses. ▸ Shut off all possible sources of ignition and increase ventilation.

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Major Spills	Environmental hazard - contain spillage. ▸ Clear area of personnel and move upwind. ▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ May be violently or explosively reactive. ▸ Wear breathing apparatus plus protective gloves.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area. ▸ Prevent concentration in hollows and sumps.
Other information	▸ Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can ▸ Store in original containers in approved flammable liquid storage area. ▸ **DO NOT** store in pits, depressions, basements or areas where vapours may be trapped. ▸ No smoking, naked lights, heat or ignition sources. ▸ Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ Aerosol dispenser. ▸ Check that containers are clearly labelled.
Storage incompatibility	▸ Avoid strong acids, bases. ▸ Avoid reaction with oxidising agents

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	xylene	Xylene (o-, m-, p-isomers)	80 ppm / 350 mg/m3	655 mg/m3 / 150 ppm	Not Available	Not Available
Australia Exposure Standards	cyclohexane	Cyclohexane	100 ppm / 350 mg/m3	1050 mg/m3 / 300 ppm	Not Available	Not Available
Australia Exposure Standards	propylene glycol monomethyl ether - alpha isomer	Propylene glycol monomethyl ether	100 ppm / 369 mg/m3	553 mg/m3 / 150 ppm	Not Available	Not Available
Australia Exposure Standards	ferric oxide	Iron oxide fume (Fe2O3) (as Fe)	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	ethylbenzene	Ethyl benzene	100 ppm / 434 mg/m3	543 mg/m3 / 125 ppm	Not Available	Not Available
Australia Exposure Standards	titanium dioxide	Titanium dioxide	10 mg/m3	Not Available	Not Available	(a) This value is for inhalable dust containing no asbestos and < 1% crystalline silica.
Australia Exposure Standards	isopropanol	Isopropyl alcohol	400 ppm / 983 mg/m3	1230 mg/m3 / 500 ppm	Not Available	Not Available
Australia Exposure Standards	methyl methacrylate	Methyl methacrylate	50 ppm / 208 mg/m3	416 mg/m3 / 100 ppm	Not Available	Not Available
Australia Exposure Standards	propylene glycol monomethyl ether acetate, alpha-isomer	1-Methoxy-2-propanol acetate	50 ppm / 274 mg/m3	548 mg/m3 / 100 ppm	Not Available	Not Available
Australia Exposure Standards	dimethyl ether	Dimethyl ether	400 ppm / 760 mg/m3	950 mg/m3 / 500 ppm	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
xylene	Xylenes	Not Available	Not Available	Not Available
cyclohexane	Cyclohexane	300 ppm	1700* ppm	10000** ppm
propylene glycol monomethyl ether - alpha isomer	Propylene glycol monomethyl ether; (Ucar Triol HG-170)	100 ppm	160 ppm	660 ppm
ferric oxide	Iron oxide; (Ferric oxide)	15 mg/m3	360 mg/m3	2,200 mg/m3
ethylbenzene	Ethyl benzene	Not Available	Not Available	Not Available
naphtha petroleum, light, hydrotreated	Naphtha (petroleum),hydrotreated light	1,000 mg/m3	11,000 mg/m3	66,000 mg/m3
titanium dioxide	Titanium oxide; (Titanium dioxide)	30 mg/m3	330 mg/m3	2,000 mg/m3
isopropanol	Isopropyl alcohol	400 ppm	2000* ppm	12000** ppm
methyl ethyl ketoxime	Butanone oxime; (Ethyl methyl ketoxime)	30 ppm	56 ppm	250 ppm
methyl methacrylate	Methyl methacrylate	Not Available	Not Available	Not Available

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propylene glycol monomethyl ether acetate, alpha-isomer	Propylene glycol monomethyl ether acetate, alpha-isomer; (1-Methoxypropyl-2-acetate)	Not Available	Not Available	Not Available
dimethyl ether	Methyl ether; (Dimethyl ether)	3,000 ppm	3800* ppm	7200* ppm

Ingredient	Original IDLH	Revised IDLH
xylene	900 ppm	Not Available
cyclohexane	1,300 ppm	Not Available
propylene glycol monomethyl ether - alpha isomer	Not Available	Not Available
ferric oxide	2,500 mg/m3	Not Available
ethylbenzene	800 ppm	Not Available
naphtha petroleum, light, hydrotreated	Not Available	Not Available
titanium dioxide	5,000 mg/m3	Not Available
isopropanol	2,000 ppm	Not Available
methyl ethyl ketoxime	Not Available	Not Available
methyl methacrylate	1,000 ppm	Not Available
propylene glycol monomethyl ether acetate, alpha-isomer	Not Available	Not Available
4,5-dichloro-2-octyl-3(2H)-isothiazolone	Not Available	Not Available
dimethyl ether	Not Available	Not Available

OCCUPATIONAL EXPOSURE BANDING

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
naphtha petroleum, light, hydrotreated	E	≤ 0.1 ppm
methyl ethyl ketoxime	E	≤ 0.1 ppm
4,5-dichloro-2-octyl-3(2H)-isothiazolone	E	≤ 0.1 ppm
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

MATERIAL DATA

NOTE H: Special requirements exist in relation to classification and labelling of this substance. This note applies to certain coal- and oil -derived substances and to certain entries for groups of substances in Annex VI. European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP
NOTE P: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0.01% w/w benzene (EINECS No 200-753-7). Note E shall also apply when the substance is classified as a carcinogen. This note applies only to certain complex oil-derived substances in Annex VI.
European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP
NOTE D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed on Annex I
When they are placed on the market in a non-stabilised form, the label must state the name of the substance followed by the words "non-stabilised"
European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP

Exposure controls

Appropriate engineering controls	**CARE:** Use of a quantity of this material in confined space or poorly ventilated area, where rapid build up of concentrated atmosphere may occur, could require increased ventilation and/or protective gear Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
Personal protection	
Eye and face protection	714aer
Skin protection	See Hand protection below
Hands/feet protection	▸ No special equipment needed when handling small quantities. ▸ **OTHERWISE:** ▸ For potentially moderate exposures: ▸ Wear general protective gloves, eg. light weight rubber gloves. ▸ For potentially heavy exposures: ▸ Wear chemical protective gloves, eg. PVC. and safety footwear.
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities. **OTHERWISE:** ▸ Overalls. ▸ Skin cleansing cream.

Continued...

	▸ Eyewash 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:
RS Pro Red Conformal Coating #831-141 (AUS)

Material	CPI
BUTYL	C
BUTYL/NEOPRENE	C
HYPALON	C
NAT+NEOPR+NITRILE	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
NITRILE+PVC	C
PE/EVAL/PE	C
PVA	C
PVC	C
PVDC/PE/PVDC	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. -
* 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

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

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

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Red highly flammable liquid.

Physical state	Liquid	**Relative density (Water = 1)**	0.78
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Available	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	525.64-833.33 @20C
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Applicable
Flash point (°C)	<23	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	HIGHLY FLAMMABLE.	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	61
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Not Available	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7

Continued...

Chemical stability	▸ Elevated temperatures. ▸ Presence of open flame. ▸ 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 vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo. Inhalation hazard is increased at higher temperatures. Acute effects from inhalation of high concentrations of vapour are pulmonary irritation, including coughing, with nausea; central nervous system depression - characterised by headache and dizziness, increased reaction time, fatigue and loss of co-ordination **WARNING**:Intentional misuse by concentrating/inhaling contents may be lethal.
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual.
Skin Contact	Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis. Limited evidence suggests that repeated exposure may cause skin cracking, flaking or drying following normal handling and use. The material may accentuate any pre-existing dermatitis condition Spray mist may produce discomfort Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds 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.
Eye	Evidence exists, or practical experience predicts, that the material may cause severe eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Eye contact may cause significant inflammation with pain. Corneal injury may occur; permanent impairment of vision may result unless treatment is prompt and adequate. Repeated or prolonged exposure to irritants may cause inflammation characterised by a temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur. The liquid produces a high level of eye discomfort and is capable of causing pain and severe conjunctivitis. Corneal injury may develop, with possible permanent impairment of vision, if not promptly and adequately treated.
Chronic	Strong evidence exists that the substance may cause irreversible but non-lethal mutagenic effects following a single exposure. Studies with some glycol ethers (principally the monoethylene glycols) and their esters indicate reproductive changes, testicular atrophy, infertility and kidney function changes. The metabolic acetic acid derivatives of glycol ethers (alkoxyacetic acids), not the ether itself, have been found to be the proximal reproductive toxin in animals. The potency of these metabolites decreases significantly as the chain length of the ether increases. Consequently glycol ethers with longer substituents (e.g diethylene glycols, triethylene glycols) have not generally been associated with reproductive effects. On the basis of epidemiological data, the material is regarded as carcinogenic to humans. There is sufficient data to establish a causal association between human exposure to the material and the development of cancer. Chronic solvent inhalation exposures may result in nervous system impairment and liver and blood changes. [PATTYS] **WARNING**: Aerosol containers may present pressure related hazards.

	TOXICITY	IRRITATION
RS Pro Red Conformal Coating #831-141 (AUS)	Dermal (None) LD50: 7549.12 mg/kg*[2]	Not Available
	Inhalation (None) LC50: 123.84 mg/l (vapour)*[2]	
xylene	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >1700 mg/kg[2]	Eye (human): 200 ppm irritant
	Inhalation (rat) LC50: 4994.295 mg/l/4h[2]	Eye (rabbit): 5 mg/24h SEVERE
	Oral (rat) LD50: 3523-8700 mg/kg[2]	Eye (rabbit): 87 mg mild
		Eye: adverse effect observed (irritating)[1]
		Skin (rabbit):500 mg/24h moderate
		Skin: adverse effect observed (irritating)[1]
cyclohexane	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >2000 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]

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	Inhalation (rat) LC50: >9489.1605 mg/l/4H[2]	Skin(rabbit): 1548 mg/48hr - mild
	Oral (rat) LD50: >5000 mg/kg[2]	Skin: adverse effect observed (irritating)[1]
		Skin: no adverse effect observed (not irritating)[1]
propylene glycol monomethyl ether - alpha isomer	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >2000 mg/kg[1]	Eye (rabbit) 230 mg mild
	Inhalation (rat) LC50: 12485.7375 mg/l/5h.d[2]	Eye (rabbit) 500 mg/24 h. - mild
	Oral (rat) LD50: 3739 mg/kg[2]	Eye (rabbit): 100 mg SEVERE
		Skin (rabbit) 500 mg open - mild
ferric oxide	**TOXICITY**	**IRRITATION**
	Oral (rat) LD50: >10000 mg/kg[2]	Not Available
ethylbenzene	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >5000 mg/kg[2]	Eye (rabbit): 500 mg - SEVERE
	Inhalation (mouse) LC50: 17.75 mg/l/2H[2]	Eye: no adverse effect observed (not irritating)[1]
	Oral (rat) LD50: 3500 mg/kg[2]	Skin (rabbit): 15 mg/24h mild
		Skin: no adverse effect observed (not irritating)[1]
naphtha petroleum, light, hydrotreated	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >1900 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
	Oral (rat) LD50: >4500 mg/kg[1]	Skin: adverse effect observed (irritating)[1]
titanium dioxide	**TOXICITY**	**IRRITATION**
	dermal (hamster) LD50: >=10000 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]
	Oral (rat) LD50: >2000 mg/kg[1]	Skin (human): 0.3 mg /3D (int)-mild *
		Skin: no adverse effect observed (not irritating)[1]
isopropanol	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: =12800 mg/kg[2]	Eye (rabbit): 10 mg - moderate
	Inhalation (rat) LC50: 72.6 mg/l/4h[2]	Eye (rabbit): 100 mg - SEVERE
	Oral (rat) LD50: =4396 mg/kg[2]	Eye (rabbit): 100mg/24hr-moderate
		Skin (rabbit): 500 mg - mild
methyl ethyl ketoxime	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: 2-1.8 mg/kg[2]	Eye (rabbit): 0.1 ml - SEVERE
	Inhalation (rat) LC50: 20 mg/l/4h**[2]	
	Oral (rat) LD50: >900 mg/kg[1]	
methyl methacrylate	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >5000 mg/kg[2]	Eye (rabbit): 150 mg
	Inhalation (rat) LC50: 78 mg/l/4H[2]	Skin (rabbit): 10000 mg/kg (open)
	Oral (rat) LD50: 7872 mg/kg[2]	
propylene glycol monomethyl ether acetate, alpha-isomer	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)[1]
	Inhalation (rat) LC50: 6510.0635325 mg/l/6h[2]	Skin: no adverse effect observed (not irritating)[1]
	Oral (rat) LD50: 5155 mg/kg[1]	
4,5-dichloro-2-octyl-3(2H)-isothiazolone	**TOXICITY**	**IRRITATION**
	Inhalation (rat) LC50: 0.758 mg/l/4h*[2]	Not Available
dimethyl ether	**TOXICITY**	**IRRITATION**
	Inhalation (rat) LC50: 309 mg/l/4H[2]	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*	

XYLENE	Reproductive effector in rats The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the

Continued...

	spongy layer (spongiosis) and intracellular oedema of the epidermis.
CYCLOHEXANE	Bacteria mutagen
PROPYLENE GLYCOL MONOMETHYL ETHER - ALPHA ISOMER	NOTE: For PGE - mixed isomers: Exposure of pregnant rats and rabbits to the substance did not give rise to teratogenic effects at concentrations up to 3000 ppm. Foetotoxic effects were seen in rats but not in rabbits at this concentration; maternal toxicity was noted in both species.
ETHYLBENZENE	Liver changes, utheral tract, effects on fertility, foetotoxicity, specific developmental abnormalities (musculoskeletal system) recorded. Ethylbenzene is readily absorbed following inhalation, oral, and dermal exposures, distributed throughout the body, and excreted primarily through urine. There are two different metabolic pathways for ethylbenzene with the primary pathway being the alpha-oxidation of ethylbenzene to 1-phenylethanol, mostly as the R-enantiomer. The pattern of urinary metabolite excretion varies with different mammalian species. In humans, ethylbenzene is excreted in the urine as mandelic acid and phenylgloxylic acids; whereas rats and rabbits excrete hippuric acid and phenaceturic acid as the main metabolites. **NOTE:** Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.
NAPHTHA PETROLEUM, LIGHT, HYDROTREATED	For Low Boiling Point Naphthas (LBPNs): **Acute toxicity:** LBPNs generally have low acute toxicity by the oral (median lethal dose [LD50] in rats > 2000 mg/kg-bw), inhalation (LD50 in rats > 5000 mg/m3) and dermal (LD50 in rabbits > 2000 mg/kg-bw) routes of exposure Most LBPNs are mild to moderate eye and skin irritants in rabbits, with the exception of heavy catalytic cracked and heavy catalytic reformed naphthas, which have higher primary skin irritation indices. **Sensitisation:** LBPNs do not appear to be skin sensitizers, but a poor response in the positive control was also noted in these studies **Repeat dose toxicity:** The lowest-observed-adverse-effect concentration (LOAEC) and lowest-observed-adverse-effect level (LOAEL) values identified following short-term (2-89 days) and subchronic (greater than 90 days) exposure to the LBPN substances. These values were determined for a variety of endpoints after considering the toxicity data for all LBPNs in the group. Most of the studies were carried out by the inhalation route of exposure. Renal effects, including increased kidney weight, renal lesions (renal tubule dilation, necrosis) and hyaline droplet formation, observed in male rats exposed orally or by inhalation to most LBPNs, were considered species- and sex-specific These effects were determined to be due to a mechanism of action not relevant to humans -specifically, the interaction between hydrocarbon metabolites and alpha-2-microglobulin, an enzyme not produced in substantial amounts in female rats, mice and other species, including humans. Studies indicate that normal, branched and cyclic paraffins are absorbed from the mammalian 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 that iso- or cyclo-paraffins. The major classes of hydrocarbons have been shown to be well absorbed by the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with dietary lipids. The dependence of hydrocarbon absorption on concomitant triglyceride digestion and absorption,is known as the "hydrocarbon continuum hypothesis", and asserts that a series of solubilising phases in the intestinal lumen, created by dietary triglycerides and their digestion products, afford hydrocarbons a route to the lipid phase of the intestinal absorptive cell (enterocyte) membrane. The High Benzene Naphthas (HBNs) Category was developed for the HPV Program by grouping ethylene manufacturing streams (products) that exhibit commonalities from both manufacturing process and compositional perspectives. intermediates. The category includes hydrocarbon product streams associated with the ethylene industry that contain significant levels of benzene, generally with a benzene content greater than 10% and averaging about 55%. This grouping of CAS numbers represents hydrocarbon streams with a carbon number distribution that is predominantly C5- C11, through components boiling at 350 C or higher.. Benzene, as the predominant component in most streams, is expected to be the key driver with respect to health effects endpoints within the SIDS battery of tests. for petroleum: Altered mental state, drowsiness, peripheral motor neuropathy, irreversible brain damage (so-called Petrol Sniffer's Encephalopathy), delirium, seizures, and sudden death have been reported from repeated overexposure to some hydrocarbon solvents, naphthas, and gasoline This product may contain benzene which is known to cause acute myeloid leukaemia and n-hexane which has been shown to metabolize to compounds which are neuropathic. This product contains toluene. There are indications from animal studies that prolonged exposure to high concentrations of toluene may lead to hearing loss. This product contains ethyl benzene and naphthalene from which there is evidence of tumours in rodents **Carcinogenicity:** Inhalation exposure to mice causes liver tumours, which are not considered relevant to humans. Inhalation exposure to rats causes kidney tumours which are not considered relevant to humans. **Mutagenicity:** There is a large database of mutagenicity studies on gasoline and gasoline blending streams, which use a wide variety of endpoints and give predominantly negative results. All in vivo studies in animals and recent studies in exposed humans (e.g. petrol service station attendants) have shown negative results in mutagenicity assays. **Reproductive Toxicity:** Repeated exposure of pregnant rats to high concentrations of toluene (around or exceeding 1000 ppm) can cause developmental effects, such as lower birth weight and developmental neurotoxicity, on the foetus. DHC Solvent Chemie (for EC No.: 926-605-8)
TITANIUM DIOXIDE	* IUCLID Exposure to the material may result in a possible risk of irreversible effects. The material may produce mutagenic effects in man. This concern is raised, generally, on the basis of appropriate studies using mammalian somatic cells in vivo. Such findings are often supported by positive results from in vitro mutagenicity studies. For titanium dioxide: Humans can be exposed to titanium dioxide via inhalation, ingestion or dermal contact. In human lungs, the clearance kinetics of titanium dioxide is poorly characterized relative to that in experimental animals. (General particle characteristics and host factors that are considered to affect deposition and retention patterns of inhaled, poorly soluble particles such as titanium dioxide are summarized in the monograph on carbon black.) With regard to inhaled titanium dioxide, human data are mainly available from case reports that showed deposits of titanium dioxide in lung tissue as well as in lymph nodes. A single clinical study of oral ingestion of fine titanium dioxide showed particle size-dependent absorption by the gastrointestinal tract and large interindividual variations in blood levels of titanium dioxide. No significant acute toxicological data identified in literature search. The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
ISOPROPANOL	For isopropanol (IPA): **Acute toxicity:** Isopropanol has a low order of acute toxicity. It is irritating to the eyes, but not to the skin. Very high vapor concentrations are irritating to the eyes, nose, and throat, and prolonged exposure may produce central nervous system depression and narcosis. Human volunteers reported that exposure to 400 ppm isopropanol vapors for 3 to 5 min.
METHYL ETHYL KETOXIME	For methyl ethyl ketoxime (MEKO) **Carcinogenicity:** Increased incidences of liver tumours were observed in rat and mouse lifetime studies and there was also an increased incidence of mammary gland tumours in female rats, however, this was only seen at mid- and/or high concentrations of MEKO. Consideration of the available information regarding genotoxicity indicate that MEKO is not likely to be genotoxic. Accordingly, although the mode of induction of tumours is not fully elucidated, the tumours observed are not considered to have resulted from direct interaction with genetic material. The European Commission (2000) considered that a possible mechanism for the increased incidences of liver tumours in male rats and mice was the metabolism of MEKO to a carcinogenic agent, mediated by sulfotransferase. The sex and organ specificity of tumour formation correlated

Continued...

	with the typically higher activity of this enzyme in male rodents. **Genotoxicity:** The *in vitro* and *in vivo* genotoxicity results for MEKO were mostly negative, including an *in vivo* study that utilized inhalation exposure and was found to be negative for DNA adducts in rat liver cells. Mammalian lymphocyte mutagen *Huls Canada ** Merck
METHYL METHACRYLATE	**For methyl methacrylate:** Acute toxicity: MMA is rapidly absorbed after oral or inhalatory administration. *In vitro* skin absorption studies in human skin indicate that MMA can be absorbed through human skin. After inhalation to rats 10 to 20% of the substance is deposited in the upper respiratory tract where it is metabolised by local tissue esterases. Acute toxicity of MMA by the oral, dermal, and inhalative routes is low as judged by tests with different species: The oral LD50 for rats, mice, and rabbits is found to exceed 5000 mg/kg bw. Acute inhalation toxicity for rats and mice is described by LC50 values of > 25 mg/l/4 hours. Acute dermal toxicity is reported for rabbits to exceed 5000 mg/kg bw. Skin and respiratory irritation are reported for subjects exposed to monomeric MMA. The substance has been shown to produce severe skin irritation when tested undiluted on rabbit skin. Where no "official" classification for acrylates and methacrylates exists, there has been cautious attempts to create classifications in the absence of contrary evidence. For example Monalkyl or monoarylesters of acrylic acids should be classified as R36/37/38 and R51/53 Monoalkyl or monoaryl esters of methacrylic acid should be classified as R36/37/38 Based on the available oncogenicity data and without a better understanding of the carcinogenic mechanism the Health and Environmental Review Division (HERD), Office of Toxic Substances (OTS), of the US EPA previously concluded that all chemicals that contain the acrylate or methacrylate moiety (CH2=CHCOO or CH2=C(CH3)COO) should be considered to be a carcinogenic hazard unless shown otherwise by adequate testing. This position has now been revised and acrylates and methacrylates are no longer *de facto* carcinogens. Inhalation (human) TCLo: 60 mg/m3(15 ppm) [* Manuf. Rohm & Haas]
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE, ALPHA-ISOMER	A BASF report (in ECETOC) showed that inhalation exposure to 545 ppm PGMEA (beta isomer) was associated with a teratogenic response in rabbits; but exposure to 145 ppm and 36 ppm had no adverse effects. The beta isomer of PGMEA comprises only 10% of the commercial material, the remaining 90% is alpha isomer. Hazard appears low but emphasizes the need for care in handling this chemical. [I.C.I] *Shin-Etsu SDS A BASF report (in ECETOC) showed that inhalation exposure to 545 ppm PGMEA (beta isomer) was associated with a teratogenic response in rabbits; but exposure to 145 ppm and 36 ppm had no adverse effects. The beta isomer of PGMEA comprises only 10% of the commercial material, the remaining 90% is alpha isomer. Hazard appears low but emphasizes the need for care in handling this chemical. [I.C.I]
4,5-DICHLORO-2-OCTYL-3(2H)-ISOTHIAZOLONE	Guinea Pig Assay: causes sensitisation * Did not show teratogenic effects in animal experiments. * Not mutagenic * *Rohm and Haas MSDS Rozone 2000 Mildewcide
XYLENE & ETHYLBENZENE	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
XYLENE & ISOPROPANOL & METHYL METHACRYLATE	The substance is classified by IARC as Group 3: **NOT** classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.
PROPYLENE GLYCOL MONOMETHYL ETHER - ALPHA ISOMER & PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE, ALPHA-ISOMER	for propylene glycol ethers (PGEs): Typical propylene glycol ethers include propylene glycol n-butyl ether (PnB); dipropylene glycol n-butyl ether (DPnB); dipropylene glycol methyl ether acetate (DPMA); tripropylene glycol methyl ether (TPM). Testing of a wide variety of propylene glycol ethers Testing of a wide variety of propylene glycol ethers has shown that propylene glycol-based ethers are less toxic than some ethers of the ethylene series. The common toxicities associated with the lower molecular weight homologues of the ethylene series, such as adverse effects on reproductive organs, the developing embryo and fetus, blood (haemolytic effects), or thymus, are not seen with the commercial-grade propylene glycol ethers. In the ethylene series, metabolism of the terminal hydroxyl group produces an alkoxyacetic acid. The reproductive and developmental toxicities of the lower molecular weight homologues in the ethylene series are due specifically to the formation of methoxyacetic and ethoxyacetic acids. Longer chain length homologues in the ethylene series are not associated with the reproductive toxicity but can cause haemolysis in sensitive species, also through formation of an alkoxyacetic acid.
FERRIC OXIDE & TITANIUM DIOXIDE & ISOPROPANOL & METHYL METHACRYLATE & 4,5-DICHLORO-2-OCTYL-3(2H)-ISOTHIAZOLONE	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.
ETHYLBENZENE & TITANIUM DIOXIDE & ISOPROPANOL	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.
ETHYLBENZENE & TITANIUM DIOXIDE	**WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.
METHYL ETHYL KETOXIME & METHYL METHACRYLATE & 4,5-DICHLORO-2-OCTYL-3(2H)-ISOTHIAZOLONE	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. 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.

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

Continued...

Toxicity

RS Pro Red Conformal Coating #831-141 (AUS)

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available

xylene

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	2.6mg/L	2
EC50	48	Crustacea	1.8mg/L	2
EC50	72	Algae or other aquatic plants	3.2mg/L	2
NOEC	73	Algae or other aquatic plants	0.44mg/L	2

cyclohexane

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	1.967mg/L	3
EC50	48	Crustacea	0.9mg/L	2
EC50	96	Algae or other aquatic plants	2.17mg/L	2
EC20	72	Algae or other aquatic plants	28mg/L	2
NOEC	72	Algae or other aquatic plants	0.952mg/L	2

propylene glycol monomethyl ether - alpha isomer

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	>=1-mg/L	2
EC50	48	Crustacea	>=1-mg/L	2
EC50	96	Algae or other aquatic plants	>1-mg/L	2
EC0	48	Crustacea	>=1-mg/L	2
NOEC	48	Crustacea	>=1-mg/L	2

ferric oxide

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	0.05mg/L	2
EC50	48	Crustacea	5.11mg/L	2
EC50	72	Algae or other aquatic plants	18mg/L	2
NOEC	504	Fish	0.52mg/L	2

ethylbenzene

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	0.0043mg/L	4
EC50	48	Crustacea	1.184mg/L	4
EC50	96	Algae or other aquatic plants	3.6mg/L	4
NOEC	168	Crustacea	0.96mg/L	5

naphtha petroleum, light, hydrotreated

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	4.1mg/L	2
EC50	48	Crustacea	3mg/L	2
EC50	72	Algae or other aquatic plants	>1-mg/L	2

titanium dioxide

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	>1-mg/L	2
EC50	48	Crustacea	>1-mg/L	2
EC50	72	Algae or other aquatic plants	5.83mg/L	4
NOEC	336	Fish	0.089mg/L	4

isopropanol

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	9-640mg/L	2
EC50	48	Crustacea	12500mg/L	5
EC50	96	Algae or other aquatic plants	993.232mg/L	3
EC0	24	Crustacea	5-102mg/L	2
NOEC	5760	Fish	0.02mg/L	4

methyl ethyl ketoxime

ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	37.890mg/L	3
EC50	48	Crustacea	ca.201mg/L	2
EC50	96	Algae or other aquatic plants	4.557mg/L	3
EC20	72	Algae or other aquatic plants	ca.55mg/L	2
NOEC	72	Algae or other aquatic plants	ca.1.02mg/L	2

Continued...

methyl methacrylate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	43.382mg/L	3
	EC50	48	Crustacea	=69mg/L	1
	EC50	72	Algae or other aquatic plants	>1-260mg/L	2
	NOEC	504	Crustacea	37mg/L	2
propylene glycol monomethyl ether acetate, alpha-isomer	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	100mg/L	1
	EC50	48	Crustacea	373mg/L	2
	EC50	72	Algae or other aquatic plants	>1-mg/L	2
	NOEC	96	Algae or other aquatic plants	>=1-mg/L	2
4,5-dichloro-2-octyl-3(2H)-isothiazolone	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.0027mg/L	4
	EC50	48	Crustacea	0.00522mg/L	4
	EC50	96	Algae or other aquatic plants	0.018mg/L	4
	NOEC	24	Algae or other aquatic plants	0.02709408mg/L	4
dimethyl ether	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	1-783.04mg/L	2
	EC50	48	Crustacea	>4400.0mg/L	2
	EC50	96	Algae or other aquatic plants	154.917mg/L	2
	NOEC	48	Crustacea	>4000mg/L	1
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*				

Very 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
xylene	HIGH (Half-life = 360 days)	LOW (Half-life = 1.83 days)
cyclohexane	HIGH (Half-life = 360 days)	LOW (Half-life = 3.63 days)
propylene glycol monomethyl ether - alpha isomer	LOW (Half-life = 56 days)	LOW (Half-life = 1.7 days)
ethylbenzene	HIGH (Half-life = 228 days)	LOW (Half-life = 3.57 days)
titanium dioxide	HIGH	HIGH
isopropanol	LOW (Half-life = 14 days)	LOW (Half-life = 3 days)
methyl ethyl ketoxime	LOW	LOW
methyl methacrylate	LOW	LOW
propylene glycol monomethyl ether acetate, alpha-isomer	LOW	LOW
4,5-dichloro-2-octyl-3(2H)-isothiazolone	HIGH	HIGH
dimethyl ether	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
xylene	MEDIUM (BCF = 740)
cyclohexane	LOW (BCF = 242)
propylene glycol monomethyl ether - alpha isomer	LOW (BCF = 2)
ethylbenzene	LOW (BCF = 79.43)
titanium dioxide	LOW (BCF = 10)
isopropanol	LOW (LogKOW = 0.05)
methyl ethyl ketoxime	LOW (BCF = 5.8)
methyl methacrylate	LOW (BCF = 6.6)
propylene glycol monomethyl ether acetate, alpha-isomer	LOW (LogKOW = 0.56)
4,5-dichloro-2-octyl-3(2H)-isothiazolone	HIGH (LogKOW = 4.7295)
dimethyl ether	LOW (LogKOW = 0.1)

Continued...

Mobility in soil

Ingredient	Mobility
cyclohexane	LOW (KOC = 165.5)
propylene glycol monomethyl ether - alpha isomer	HIGH (KOC = 1)
ethylbenzene	LOW (KOC = 517.8)
titanium dioxide	LOW (KOC = 23.74)
isopropanol	HIGH (KOC = 1.06)
methyl ethyl ketoxime	LOW (KOC = 130.8)
methyl methacrylate	LOW (KOC = 10.14)
propylene glycol monomethyl ether acetate, alpha-isomer	HIGH (KOC = 1.838)
4,5-dichloro-2-octyl-3(2H)-isothiazolone	LOW (KOC = 5796)
dimethyl ether	HIGH (KOC = 1.292)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains. ▸ It may be necessary to collect all wash water for treatment before disposal. ▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▸ Where in doubt contact the responsible authority. ▸ Consult State Land Waste Management Authority for disposal. ▸ Discharge contents of damaged aerosol cans at an approved site. ▸ Allow small quantities to evaporate. ▸ **DO NOT** incinerate or puncture aerosol cans.

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	
HAZCHEM	Not Applicable

Land transport (ADG)

UN number	1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	Class: 2.1 Subrisk: Not Applicable
Packing group	Not Applicable
Environmental hazard	Environmentally hazardous
Special precautions for user	Special provisions: 63 190 277 327 344 381 Limited quantity: 1000ml

Air transport (ICAO-IATA / DGR)

UN number	1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	ICAO/IATA Class: 2.1 ICAO / IATA Subrisk: Not Applicable ERG Code: 10L
Packing group	Not Applicable
Environmental hazard	Environmentally hazardous

Continued...

Special precautions for user	Special provisions	A145 A167 A802
	Cargo Only Packing Instructions	203
	Cargo Only Maximum Qty / Pack	150 kg
	Passenger and Cargo Packing Instructions	203
	Passenger and Cargo Maximum Qty / Pack	75 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Y203
	Passenger and Cargo Limited Maximum Qty / Pack	30 kg G

Sea transport (IMDG-Code / GGVSee)

UN number	1950	
UN proper shipping name	AEROSOLS	
Transport hazard class(es)	IMDG Class	2.1
	IMDG Subrisk	Not Applicable
Packing group	Not Applicable	
Environmental hazard	Marine Pollutant	
Special precautions for user	EMS Number	F-D , S-U
	Special provisions	63 190 277 327 344 381 959
	Limited Quantities	1000 ml

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

XYLENE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

CYCLOHEXANE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

PROPYLENE GLYCOL MONOMETHYL ETHER - ALPHA ISOMER IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

FERRIC OXIDE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

ETHYLBENZENE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

NAPHTHA PETROLEUM, LIGHT, HYDROTREATED IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

TITANIUM DIOXIDE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

ISOPROPANOL IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

METHYL ETHYL KETOXIME IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

METHYL METHACRYLATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE, ALPHA-ISOMER IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

4,5-DICHLORO-2-OCTYL-3(2H)-ISOTHIAZOLONE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

DIMETHYL ETHER IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	No (4,5-dichloro-2-octyl-3(2H)-isothiazolone)

Continued...

Canada - NDSL	No (propylene glycol monomethyl ether acetate, alpha-isomer; methyl ethyl ketoxime; methyl methacrylate; xylene; cyclohexane; propylene glycol monomethyl ether - alpha isomer; dimethyl ether; ethylbenzene; naphtha petroleum, light, hydrotreated; ferric oxide; isopropanol)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (naphtha petroleum, light, hydrotreated)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	No (4,5-dichloro-2-octyl-3(2H)-isothiazolone)
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 OTHER INFORMATION

Revision Date	27/03/2020
Initial Date	27/03/2020

SDS Version Summary

Version	Issue Date	Sections Updated
2.1.1.1	27/03/2020	Acute Health (inhaled), Acute Health (skin), Chronic Health, Classification, Environmental, Fire Fighter (fire/explosion hazard), Ingredients

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