RESENE AUTOMOTIVE & LIGHT INDUSTRIAL

Version No: 3.4

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

Issue Date: 21/05/2024 Print Date: 21/05/2024 L.GHS.NZL.EN

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

Product Identifier

Product name	RESENE DTM MIXED COLOURS
Synonyms	Incl. All colours
Proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)
Other means of identification	Not Available

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

Relevant identified uses 9093

Details of the manufacturer or supplier of the safety data sheet

Registered company name	RESENE AUTOMOTIVE & LIGHT INDUSTRIAL	
Address	2-50 Vogel Street Naenae Wellington New Zealand	
Telephone	+64 4 5770500	
Fax	+64 4 5773327	
Website	www.resene.co.nz	
Email	advice@resene.co.nz	

Emergency telephone number

Association / Organisation	NZ POISONS (24hr 7 days)	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	0800 764766	+64 800 700 112
Other emergency telephone numbers	0800 737636	+61 3 9573 3188

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

SECTION 2 Hazards identification

Classification of the substance or mixture

Classification [1]	Flammable Liquids Category 3, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2, Acute Toxicity (Inhalation) Category 4, Reproductive Toxicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 2
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	3.1C, 6.1D (inhalation), 6.1D (oral), 6.3A, 6.4A, 6.5B (contact), 6.8B, 6.9B

Label elements

Hazard pictogram(s)	
Signal word	Warning

Hazard statement(s)

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure. (Oral, Dermal, Inhalation)

Precautionary statement(s) Prevention

······································	
P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P260	Do not breathe mist/vapours/spray.
P271	Use only a well-ventilated area.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P264	Wash all exposed external body areas thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/ attention.
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider if you feel unwell.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P330	Rinse mouth.

Precautionary statement(s) Storage

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P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Precautionary statement(s) Disposal

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

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Ingredients are required by the Hazard Substances (Safety Data Sheets) Notice 2017, EPA consolidation 30 April 2021 to be identified:

Mixtures

CAS No	%[weight]	Name
108-88-3	1-10	toluene
108-65-6	1-10	propylene glycol monomethyl ether - mixture of isomers
28182-81-2	60-90	hexamethylene diisocyanate polymer
822-06-0	0.1-1	hexamethylene diisocyanate
1330-20-7	1-10	xylene
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L * EU IOELVs available	

SECTION 4 First aid measures

Description of first aid measures		
Eye Contact	 If this product comes in contact with the eyes: 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	If skin contact occurs: 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	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary. 	

	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.
Ingestion	 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. Avoid giving milk or oils. Avoid giving alcohol. If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Indication of any immediate medical attention and special treatment needed

For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO2 50 mm Hg) should be intubated.
- Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology] Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

For sub-chronic and chronic exposures to isocyanates:

- This material may be a potent pulmonary sensitiser which causes bronchospasm even in patients without prior airway hyperreactivity.
- Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
- Conjunctival irritation, skin inflammation (erythema, pain vesiculation) and gastrointestinal disturbances occur soon after exposure.
- Pulmonary symptoms include cough, burning, substernal pain and dyspnoea.
- Some cross-sensitivity occurs between different isocyanates.
- Noncardiogenic pulmonary oedema and bronchospasm are the most serious consequences of exposure. Markedly symptomatic patients should receive oxygen, ventilatory support and an intravenous line.
- Treatment for asthma includes inhaled sympathomimetics (epinephrine [adrenalin], terbutaline) and steroids.
- Activated charcoal (1 g/kg) and a cathartic (sorbitol, magnesium citrate) may be useful for ingestion.
 Mydriatics, systemic analgesics and topical antibiotics (Sulamyd) may be used for corneal abrasions.
- There is no effective therapy for sensitised workers.

[Ellenhorn and Barceloux; Medical Toxicology]

NOTE: Isocyanates cause airway restriction in naive individuals with the degree of response dependant on the concentration and duration of exposure. They induce smooth muscle contraction which leads to bronchoconstrictive episodes. Acute changes in lung function, such as decreased FEV1, may not represent sensitivity. [Karol & Jin, Frontiers in Molecular Toxicology, pp 56-61, 1992]

Personnel who work with isocyanates, isocyanate prepolymers or polyisocyanates should have a pre-placement medical examination and periodic examinations thereafter, including a pulmonary function test. Anyone with a medical history of chronic respiratory disease, asthmatic or bronchial attacks, indications of allergic responses, recurrent eczema or sensitisation conditions of the skin should not handle or work with isocyanates. Anyone who develops chronic respiratory distress when working with isocyanates should be removed from exposure and examined by a physician. Further exposure must be avoided if a sensitivity to isocyanates or polyisocyanates has developed.

SECTION 5 Firefighting measures

Extinguishing media

• Small quantities of water in contact with hot liquid may react violently with generation of a large volume of rapidly expanding hot sticky semi-solid foam.

Foam.

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.
Fire/Explosion Hazard	 Liquid and vapour are flammable. Combustion products include: carbon dioxide (CO2) carbon monoxide (CO) isocyanates hydrogen cyanide and minor amounts of nitrogen oxides (NOx) other pyrolysis products typical of burning organic material. When heated at high temperatures many isocyanates decompose rapidly generating a vapour which pressurises containers, possibly to the point of rupture. Burns with acrid black smoke.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Minor Spills	Remove all ignition sources. Contain spill with inert non- combustible absorbent then place in suitable, labelled container for waste disposal. Wipe up. Clean area with large quantity of water to complete clean- up.
Major Spills	 Chemical Class: aromatic hydrocarbons For release onto land: recommended sorbents listed in order of priority. Liquid Isocyanates and high isocyanate vapour concentrations will penetrate seals on self contained breathing apparatus - SCBA should be used inside encapsulating suit where this exposure may occur. For isocyanate spills of less than 40 litres (2 m2): Evacuate area from everybody not dealing with the emergency, keep them upwind and prevent further access, remove ignition sources and, if inside building, ventilate area as well as possible. Avoid contamination with water, alkalies and detergent solutions. Clear area of personnel and move upwind.

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

SECTION 7 Handling and storage

Precautions for safe handling Safe handling	The conductivity of this material may make it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. • Containers, even those that have been emptied, may contain explosive vapours. • Avoid all personal contact, including inhalation. • DO NOT allow clothing wet with material to stay in contact with skin
Other information	 Consider storage under inert gas. Store in original containers in approved flammable liquid storage area. for commercial quantities of isocyanates: Isocyanates should be stored in adequately bunded areas.

Conditions for safe storage, including any incompatibilities

Suitable container	 Packing as supplied by manufacturer. For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type.
Storage incompatibility	 Toluene: reacts violently with strong oxidisers, bromine, bromine trifluoride, chlorine, hydrochloric acid/ sulfuric acid mixture, 1,3-dichloro-5,5-dimethyl-2,4-imidazolidindione, dinitrogen tetraoxide, fluorine, concentrated nitric acid, nitrogen dioxide, silver chloride, sulfur dichloride, uranium fluoride, vinyl acetate forms explosive mixtures with strong acids, strong oxidisers, silver perchlorate, tetranitromethane is incompatible with bis-toluenediazo oxide attacks some plastics, rubber and coatings may generate electrostatic charges, due to low conductivity, on flow or agitation. Xylenes: may ignite or explode in contact with strong oxidisers, 1,3-dichloro-5,5-dimethylhydantoin, uranium fluoride attack some plastics, rubber and coatings may generate electrostatic charges on flow or agitation due to low conductivity. Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic rings and strong oxidising agents. For alkyl aromatics: The alkyl side chain of aromatic rings can undergo oxidation by several mechanisms. Avoid reaction with water, alcohols and detergent solutions. A range of exothermic decomposition energies for isocyanates is given as 20-30 kJ/mol.

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)	toluene	Toluene (Toluol)	20 ppm / 75 mg/m3	377 mg/m3 / 100 ppm	Not Available	(skin) - Skin absorption oto - Ototoxin (bio) - Exposure can also be estimated by biological monitoring
New Zealand Workplace Exposure Standards (WES)	propylene glycol monomethyl ether - mixture of isomers	Propylene glycol monomethyl ether	100 ppm / 369 mg/m3	553 mg/m3 / 150 ppm	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	hexamethylene diisocyanate polymer	lsocyanates, all, (as -NCO)	0.02 mg/m3	0.07 mg/m3	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)	hexamethylene diisocyanate	Hexamethylene diisocyanate	0.02 mg/m3	0.07 mg/m3	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)	xylene	Dimethylbenzene	50 ppm / 217	Not Available	Not Available	Not Available

Source	Ingredient	Material name	TWA	STEL	Peak	Notes	
			mg/m3				
Emergency Limits							
Ingredient	TEEL-1		TEEL-2			TEEL-3	
toluene	Not Available		Not Availab	le		Not Available	
propylene glycol monomethyl ether - mixture of isomers	100 ppm		160 ppm			660 ppm	
propylene glycol monomethyl ether - mixture of isomers	Not Available		Not Availab	le		Not Available	
hexamethylene diisocyanate polymer	7.8 mg/m3		86 mg/m3			510 mg/m3	
hexamethylene diisocyanate	0.018 ppm		0.2 ppm	0.2 ppm		3 ppm	
xylene	Not Available		Not Availab	Not Available		Not Available	
Ingredient	Original IDLH			F	Revised IDLH		
toluene	500 ppm			Ν	Not Available		
propylene glycol monomethyl ether - mixture of isomers	Not Available		Not Available				
hexamethylene diisocyanate polymer	Not Available			Not Available			
hexamethylene diisocyanate	Not Available			Not Available			
xylene	900 ppm			Not Available			

MATERIAL DATA

IFRA Prohibited Fragrance Substance

The International Fragrance Association (IFRA) Standards form the basis for the globally accepted and recognized risk management system for the safe use of fragrance ingredients and are part of the IFRA Code of Practice.

For isocyanates:

Some jurisdictions require that health surveillance be conducted on occupationally exposed workers.

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits.

Exposed individuals are **NOT** reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded. for propylene glycol <u>monomethyl</u> ether (PGME)

Odour Threshold: 10 ppm.

For toluene:

Odour Threshold Value: 0.16-6.7 (detection), 1.9-69 (recognition)

NOTE: Detector tubes measuring in excess of 5 ppm, are available.

For 1,6-hexamethylene diisocyanate (HDI):

The toxicological action of HDI is similar to that of toluene diisocyanate and and the TLV-TWA is analogous.

for xylenes: IDLH Level: 900 ppm

Odour Threshold Value: 20 ppm (detection), 40 ppm (recognition)

NOTE: Detector tubes for o-xylene, measuring in excess of 10 ppm, are available commercially.

Exposure controls

Appropriate engineering controls	 Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. All processes in which isocyanates are used should be enclosed wherever possible.
Individual protection measures, such as personal protective equipment	
Eye and face protection	 Safety glasses with side shields.
Skin protection	See Hand protection below
Hands/feet protection	 NOTE: The material may produce skin sensitisation in predisposed individuals. 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. Do NOT wear natural rubber (latex gloves). Isocyanate resistant materials include Teflon, Viton, nitrile rubber and some PVA gloves. DO NOT use skin cream unless necessary and then use only minimum amount.
Body protection	See Other protection below
Other protection	 All employees working with isocyanates must be informed of the hazards from exposure to the contaminant and the precautions necessary to prevent damage to their health. Overalls. Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.

Respiratory protection

For spraying or operations which might generate aerosols:

Full face respirator with supplied air.

- In certain circumstances, personal protection of the individual employee is necessary. Personal protective devices should be regarded as being supplementary to substitution and engineering control and should not be used in preference to them as they do nothing to eliminate the hazard.
- However, in some situations, minimising exposure to isocyanates by enclosure and ventilation is not possible, and occupational exposure standards may be exceeded, particularly during on-site mixing of paints, spray-painting, foaming and maintenance of machine and ventilation systems. In these situations, air-line respirators or self-contained breathing apparatus complying with the appropriate nationals standard must be used.

- Organic vapour respirators with particulate pre- filters and powered, air-purifying respirators are NOT suitable.
- Personal protective equipment must be appropriately selected, individually fitted and workers trained in their correct use and maintenance. Personal protective equipment must be regularly checked and maintained to ensure that the worker is being protected.
- Air- line respirators or self-contained breathing apparatus complying with the appropriate national standard should be used during the clean-up of spills and the repair or clean-up of contaminated equipment and similar situations which cause emergency exposures to hazardous atmospheric concentrations of isocyanate.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties Appearance Liquid with characteristic odour Relative density (Water = 1) 0.95-0.96 Physical state Liauid Partition coefficient n-octanol Not Available Not Available Odour / water Auto-ignition temperature Odour threshold Not Available Not Available (°C) Decomposition pH (as supplied) Not Available Not Available temperature (°C) Melting point / freezing point Not Available Viscosity (cSt) Not Available (°C) Initial boiling point and 115-145 Molecular weight (g/mol) Not Available boiling range (°C) Flash point (°C) 31-38 Not Available Taste Not Available Not Available Evaporation rate Explosive properties Flammability Flammable. **Oxidising properties** Not Available Surface Tension (dyn/cm or Upper Explosive Limit (%) Not Available Not Available mN/m) Lower Explosive Limit (%) Not Available Volatile Component (%vol) Not Available Vapour pressure (kPa) Not Available Gas group Not Available Solubility in water Immiscible pH as a solution (1%) Not Available Vapour density (Air = 1) Not Available VOC g/L 519

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	This product is stable and non-reactive under normal conditions of use, storage, and transport. Unstable in the presence of incompatible materials.
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

5	
Inhaled	Inhalation of vapours may cause drowsiness and dizziness. The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema. Central nervous system (CNS) depression may include nonspecific discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. The acute toxicity of inhaled alkylbenzene is best described by central nervous system depression. Headache, fatigue, lassitude, irritability and gastrointestinal disturbances (e.g., nausea, anorexia and flatulence) are the most common symptoms of xylene overexposure. Xylene is a central nervous system depressant.
Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result. At sufficiently high doses the material may be hepatotoxic (i.e. poisonous to the liver).
Skin Contact	The material may accentuate any pre-existing dermatitis condition Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. 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.
	Continued

	 The material produces moderate skin irritation; evid produces moderate inflammation of the skin in produces significant, but moderate, inflammatic inflammation being present twenty-four hours of 	a substantial number of inc on when applied to the hea	dividuals following direct contact, and/or Ithy intact skin of animals (for up to four hours), such	
Eye	Evidence exists, or practical experience predicts, that the material may cause 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.			
Chronic	Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals. Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Serious damage (clear functional disturbance or morphological change which may have toxicological significance) is likely to be caused by repeated or prolonged exposure. Exposure to the material may cause concerns for human fertility, generally on the basis that results in animal studies provide sufficient evidence to cause a strong suspicion of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects, but which are not a secondary non-specific consequence of other toxic effects. Polyisocyanates still contain small amounts of monomeric isocyanate (typically <0.5 parts per weight) and both – the polyisocyanate and the monomer - have toxicological importance. Chronic toluene habituation occurs following intentional abuse (glue sniffing) or from occupational exposure. Persons with a history of asthma or other respiratory problems or are known to be sensitised, should not be engaged in any work involving the handling of isocyanates. A 90-day inhalation study in rats with polymeric MDI (6 hours/day, 5 days/week) produced moderate to severe hyperplastic inflammatory lesions in the nasal cavities and lungs at levels of 8 mg/m3 or greater. On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. P			
RESENE DTM MIXED COLOURS	TOXICITY Not Available		ATION	
toluene	Dermal (rabbit) LD50: 12124 mg/kg ^[2] Eye (rabbit): 2mg/24h - SEVERE Inhalation (Rat) LC50: >13350 ppm4h ^[2] Eye (rabbit): 0.87 mg - mild Oral (Rat) LD50: 636 mg/kg ^[2] Eye (rabbit): 100 mg/30sec - mild Eye: adverse effect observed (irritating) ^[1] Skin (rabbit): 20 mg/24h-moderate Skin (rabbit):500 mg - moderate Skin: adverse effect observed (irritating) ^[1] Skin: adverse effect observed (irritating) ^[1] Skin: no adverse effect observed (not irritating) ^[1]			
			na mild	
propylene glycol monomethyl ether - mixture of isomers			bit) 500 mg/24 h mild adverse effect observed (not irritating) ^[1]	
	Skin (rabbit) 5		500 mg open - mild erse effect observed (not irritating) ^[1]	
hexamethylene diisocyanate polymer	TOXICITY dermal (rat) LD50: >2000 mg/kg ^[1] Inhalation (Rat) LC50: 0.052-0.5 mg/L4h ^[1] Oral (Rat) LD50: >2000 mg/kg ^[1]		IRRITATION Skin (rabbit): 500 mg - moderate	
hexamethylene diisocyanate	Dermal (rabbit) LD50: 593 mg/kg ^[2] Eye: ad Inhalation (Rat) LC50: 0.06 mg/L4h ^[2] Skin: ad		RRITATION Eye: adverse effect observed (irritating) ^[1] Skin: adverse effect observed (corrosive) ^[1] Skin: adverse effect observed (irritating) ^[1]	
xylene	TOXICITY Dermal (rabbit) LD50: >1700 mg/kg ^[2] Inhalation (Rat) LC50: 5000 ppm4h ^[2] Oral (Mouse) LD50; 2119 mg/kg ^[2]	Eye (rabb Eye (rabb Eye: adve	ON han): 200 ppm irritant bit): 5 mg/24h SEVERE bit): 87 mg mild erse effect observed (irritating) ^[1] bit):500 mg/24h 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				
RESENE DTM MIXED COLOURS	Data demonstrate that during inhalation exposure, aromatic hydrocarbons undergo substantial partitioning into adipose tissues.				
TOLUENE	For toluene: Acute Toxicity Humans exposed to intermediate to high levels of toluene for short periods of time experience adverse central nervous system effects ranging from headaches to intoxication, convulsions, narcosis, and death.				
PROPYLENE GLYCOL MONOMETHYL ETHER - MIXTURE OF ISOMERS	NOTE: Exposure of pregnant rats and rabbits to the sul The material may be irritating to the eye, with prolonged		genic effects at concentrations up to 3000 ppm.		
HEXAMETHYLENE DIISOCYANATE POLYMER	* Bayer SDS ** Ardex SDS The material may produce moderate eye irritation leadi	ng to inflammation.			
HEXAMETHYLENE DIISOCYANATE	For diisocyanates: In general, there appears to be little or no difference between aromatic and aliphatic diisocyanates as toxicants. For 1,6-hexamethylene diisocyanate: Exposures to HDI are often associated with exposures to its prepolymers, especially to a trimeric biuretic prepolymer of HDI (HDI-BT), which is widely used as a hardener in automobile and airplane paints, and which typically contains 0.5-1% unreacted HDI.				
XYLENE	Reproductive effector in rats The material may produce severe irritation to the eye causing pronounced inflammation. 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.				
RESENE DTM MIXED COLOURS & HEXAMETHYLENE DIISOCYANATE POLYMER & HEXAMETHYLENE DIISOCYANATE	The following information refers to contact allergens as a group and may not be specific to this product. Isocyanate vapours/mists are irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis with wheezing, gasping and severe distress, even sudden loss of consciousness, and pulmonary oedema.				
RESENE DTM MIXED COLOURS & PROPYLENE GLYCOL MONOMETHYL ETHER - MIXTURE OF ISOMERS	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.				
TOLUENE & PROPYLENE GLYCOL MONOMETHYL ETHER - MIXTURE OF ISOMERS & HEXAMETHYLENE DIISOCYANATE POLYMER & XYLENE	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic).				
PROPYLENE GLYCOL MONOMETHYL ETHER - MIXTURE OF ISOMERS & HEXAMETHYLENE DIISOCYANATE	Asthma-like symptoms may continue for months or even years after exposure to the material ends.				
PROPYLENE GLYCOL MONOMETHYL ETHER - MIXTURE OF ISOMERS & HEXAMETHYLENE DIISOCYANATE POLYMER & HEXAMETHYLENE DIISOCYANATE	No significant acute toxicological data identified in literature search.				
HEXAMETHYLENE DIISOCYANATE POLYMER & HEXAMETHYLENE DIISOCYANATE	Allergic reactions which develop in the respiratory pass the allergen with specific antibodies of the IgE class an Particular attention is drawn to so-called atopic diathesi bronchial asthma and atopic eczema (neurodermatitis) Exogenous allergic alveolitis is induced essentially by a lymphocytes) may be involved.	d belong in their reaction rates to is which is characterised by an in- which is associated with increase	the manifestation of the immediate type. creased susceptibility to allergic rhinitis, allergic ed IgE synthesis.		
Acute Toxicity	¥	Carcinogenicity	×		
Skin Irritation/Corrosion	×	Reproductivity	✓		
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	×		
Respiratory or Skin sensitisation	*	STOT - Repeated Exposure	*		
Mutagenicity	×	Aspiration Hazard	×		
			t available or does not fill the criteria for classificati to make classification		

Toxicity RESENE DTM MIXED COLOURS Endpoint Test Duration (hr) Species Value Source

	Not Available Not Available		Not Available	Not Available	N	ot Available
	Endpoint Test Duration (hr)		Species		Value	Source
	EC50	72h	Algae or other aquatic plants		12.5mg/L	4
	LC50	96h	Fish		5-35mg/l	4
toluene	EC50	48h	Crustacea		3.78mg/L	5
	NOEC(ECx)	168h	Crustacea		0.74mg/l	2
	EC50	96h	Algae or other aquatic plants		>376.71mg/L	4
	Endpoint	Test Duration (hr)	Species		Value	Source
	EC50	72h	Algae or other aquatic plan	ts	>1000mg/l	2
propylene glycol	LC50	96h	Fish		100-180mg/l	2
monomethyl ether - mixture of isomers	EC50	48h	Crustacea		373mg/l	2
or isoliters	NOEC(ECx)	336h	Fish		47.5mg/l	2
	EC50	96h	Algae or other aquatic plants		>1000mg/l	2
hexamethylene diisocyanate polymer	Endpoint LC50 EC50(ECx) EC50	Test Duration (hr)96h48h72h	Species Fish Crustacea Algae or other aquatic plants	Fish>1Crustacea>1		Source Not Available Not Available Not Available
	EC50	48h	Crustacea	>10	00mg/l	Not Available
	Endpoint	Test Duration (hr)	Species		Value	Source
hovomothylono diiseover-t-	EC0(ECx)	24h	Crustacea		<0.33mg/l	1
hexamethylene diisocyanate	EC50	72h	Algae or other aquatic plants		>77.4mg/l	2
	LC50	96h	Fish 22mg/l 1			
	Endpoint	Test Duration (hr)	Species		Value	Source
	LC50	96h	Fish		2.6mg/l	2
xylene	EC50	72h	Algae or other aquatic pla	ants	4.6mg/l	2
	EC50	48h	Crustacea		1.8mg/l	2
	NOEC(ECx)	73h	Algae or other aquatic plants		0.44mg/l	2

(Japan) - Bioconcentration Data 8. Vendor Data

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

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark.

For Aromatic Substances Series:

Environmental Fate: Large, molecularly complex polycyclic aromatic hydrocarbons, or PAHs, are persistent in the environment longer than smaller PAHs.

for polyisocyanates: Polyisocyanates are not readily biodegradable.

Hydrolysis would represents the primary fate mechanism for the majority of the commercial isocyanate monomers, but, is tempered somewhat by the lack of water solubility. For Xylenes:

log Koc : 2.05-3.08; Koc : 25.4-204; Half-life (hr) air : 0.24-42; Half-life (hr) H2O surface water : 24-672; Half-life (hr) H2O ground : 336-8640; Half-life (hr) soil : 52-672; Henry's Pa m3 /mol : 637-879; Henry's atm m3 /mol - 7.68E-03; BOD 5 if unstated - 1.4,1%; COD - 2.56,13% ThOD - 3.125 : BCF : 23; log BCF : 1.17-2.41. For Toluene:

log Kow : 2.1-3; log Koc : 1.12-2.85; Koc : 37-260; log Kom : 1.39-2.89; Half-life (hr) air : 2.4-104; Half-life (hr) H2O surface water : 5.55-528; Half-life (hr) H2O ground : 168-2628; Half-life (hr) soil : <48-240; Henry's Pa m3 /mol : 518-694; Henry's atm m3 /mol : 5.94; E-03BOD 5 0.86-2.12, 5%COD - 0.7-2.52,21-27%; ThOD - 3.13 ; BCF - 1.67-380;

log BCF - 0.22-3.28.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
toluene	LOW (Half-life = 28 days)	LOW (Half-life = 4.33 days)
propylene glycol monomethyl ether - mixture of isomers	LOW (Half-life = 56 days)	LOW (Half-life = 1.7 days)
hexamethylene diisocyanate polymer	HIGH	HIGH
hexamethylene diisocyanate	LOW	LOW
xylene	HIGH (Half-life = 360 days)	LOW (Half-life = 1.83 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
toluene	LOW (BCF = 90)
propylene glycol monomethyl ether - mixture of isomers	LOW (BCF = 2)
hexamethylene diisocyanate polymer	LOW (LogKOW = 7.5795)
hexamethylene diisocyanate	LOW (LogKOW = 3.1956)
xylene	MEDIUM (BCF = 740)

Mobility in soil

Ingredient	Mobility
toluene	LOW (Log KOC = 268)
propylene glycol monomethyl ether - mixture of isomers	HIGH (Log KOC = 1)
hexamethylene diisocyanate polymer	LOW (Log KOC = 18560000)
hexamethylene diisocyanate	LOW (Log KOC = 5864)

SECTION 13 Disposal considerations

Waste treatment methods					
Product / Packaging disposal	 Containers may still present a chemical hazard/ danger when empty. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. DO NOT allow wash water from cleaning or process equipment to enter drains. Recycle wherever possible. Consult manufacturer for recycling option. 				

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.

Do not allow product or wash water from cleaning or process equipment to enter drains or watercourses. It may be necessary to collect all wash water for treatment before disposal. The generation of waste should be avoided or minimised wherever possible. Disposal of this product should comply with Hazard Substances (Disposal) Notice 2017 (EPA Consolidation 30 April 2021) and local regulations. Flammable substance can be disposed of it the substance is treated by using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance, or exporting the substance from New Zealand as waste. For treating and discharging processes contact your local authority.

The treating may include burning the substance if the burning is managed to ensure that no person, or place where a person may legally be present.

The substance may be discharged into the environment as waste or disposed into a landfill if the substance will not come into contact with oxidising substances and where is no ignition source which is capable to ignite the substance.

SECTION 14 Transport information

Labels Required Image: Marine Pollutant NO HAZCHEM •3Y

Land transport (UN)

Lana tranoport (ort)				
14.1. UN number or ID number	1263			
14.2. UN proper shipping name	PAINT (including paint	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)		
14.3. Transport hazard class(es)	Class Subsidiary Hazard	3 Not Applicable		
14.4. Packing group	Ш			
14.5. Environmental hazard	Not Applicable			
14.6. Special precautions for user	Special provisions	163; 223; 367 5 L		

Air transport (ICAO-IATA / DGR)

14.1. UN number	1263
	Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)

14.2. UN proper shipping name					
	ICAO/IATA Class	3			
14.3. Transport hazard class(es)	ICAO / IATA Subsidiary Hazard	Not Applicable			
0.000(00)	ERG Code	3L			
14.4. Packing group	III				
14.5. Environmental hazard	Not Applicable				
	Special provisions		A3 A72 A192		
	Cargo Only Packing Instructions		366		
	Cargo Only Maximum Qty / Pack		220 L		
14.6. Special precautions for user	Passenger and Cargo Packing In	structions	355		
	Passenger and Cargo Maximum	Qty / Pack	60 L		
	Passenger and Cargo Limited Qu	antity Packing Instructions	Y344	·	
	Passenger and Cargo Limited Ma	aximum Qty / Pack	10 L		

Sea transport (IMDG-Code / GGVSee)

	01000)				
14.1. UN number	1263				
14.2. UN proper shipping name	PAINT (including paint	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)			
14.3. Transport hazard	IMDG Class		3		
class(es)	IMDG Subsidiary Hazard		Not Applicabl	9	
14.4. Packing group					
14.5 Environmental hazard	Not Applicable				
14.6. Special precautions for user	EMS Number	F-E , S-E			
	Special provisions	163 22	23 367 955		
	Limited Quantities	ties 5 L			

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

Not Applicable

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

Product name	Group
toluene	Not Available
propylene glycol monomethyl ether - mixture of isomers	Not Available
hexamethylene diisocyanate polymer	Not Available
hexamethylene diisocyanate	Not Available
xylene	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
toluene	Not Available
propylene glycol monomethyl ether - mixture of isomers	Not Available
hexamethylene diisocyanate polymer	Not Available
hexamethylene diisocyanate	Not Available
xylene	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
HSR002662	Surface Coatings and Colourants Flammable Group Standard 2020

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

toluene 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 - Not Classified as Carcinogenic

New Zealand Approved Hazardous Substances with controls

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

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

RESENE DTM MIXED COLOURS

New Zealand Inventory of Chemicals (NZIoC)	
New Zealand Workplace Exposure Standards (WES)	
propylene glycol monomethyl ether - mixture of isomers is found on the following regulatory lists	
Chemical Footprint Project - Chemicals of High Concern List	
New Zealand Approved Hazardous Substances with controls	
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals	
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data	
New Zealand Inventory of Chemicals (NZIoC)	
New Zealand Workplace Exposure Standards (WES)	
hexamethylene diisocyanate polymer is found on the following regulatory lists	
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)	
hexamethylene diisocyanate is found on the following regulatory lists	
New Zealand Approved Hazardous Substances with controls	
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals	
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data	
New Zealand Inventory of Chemicals (NZIoC)	
New Zealand Workplace Exposure Standards (WES)	
xylene is found on the following regulatory lists	
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic	
New Zealand Approved Hazardous Substances with controls	
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals	
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data	
New Zealand Inventory of Chemicals (NZIoC)	
New Zealand Workplace Exposure Standards (WES)	

Additional Regulatory Information

Not Applicable

Hazardous Substance Location

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

Hazard Class	Quantity (Closed Containers)	Quantity (Open Containers)
3.1C	500 L in containers more than 5 L	250 L
3.1C	1 500 L in containers up to and including 5 L	250 L

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
6.5A or 6.5B	120	1	3	
3.1C or 3.1D				10 L

Tracking Requirements

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non- Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (toluene; hexamethylene diisocyanate; xylene)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (hexamethylene diisocyanate polymer)

National Inventory	Status
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	21/05/2024	
Initial Date	21/02/2020	

SDS Version Summary

Version	Date of Update	Sections Updated
2.4	21/05/2024	Hazards identification - Classification

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chernwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment.

Definitions and abbreviations

- PC TWA: Permissible Concentration-Time Weighted Average
- PC STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit.
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- BCF: BioConcentration Factors
- BEI: Biological Exposure Index
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
- ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIOC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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