

WATTYL POLY U400 RAPID RECOAT (RR) PART B

Chemwatch Independent Material Safety Data Sheet
Issue Date: 30-Aug-2013
9317SP(cs)

CHEMWATCH 5135-97
Version No:7.1.1.1
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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

WATTYL POLY U400 RAPID RECOAT (RR) PART B

SYNONYMS

"Product Code: 202278"

PROPER SHIPPING NAME

PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)

PRODUCT USE

■ Used according to manufacturer's directions.

Requires that the two parts be mixed by hand or mixer before use, in accordance with manufacturers directions. Mix only as much as is required. Do not return the mixed material to the original containers.

CONTAINS free organic isocyanate. Mixing and application requires special precautions and use of personal protective gear [APMF]. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.

SUPPLIER

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Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

RISK

Risk Codes

R10

R19

R20

R36

R40(3)

R42/43

R61(2)

R65

Risk Phrases

• Flammable.

• May form explosive peroxides.

• Harmful by inhalation.

• Irritating to eyes.

• Limited evidence of a carcinogenic effect.

• May cause SENSITISATION by inhalation and skin contact.

• May cause harm to the unborn child.

• HARMFUL- May cause lung damage if swallowed.

SAFETY

Safety Codes

S01

S23

S24

S25

S36

S38

S37

S39

S18

S51

S09

S53

S401

S07

Safety Phrases

• Keep locked up.

• Do not breathe gas/fumes/vapour/spray.

• Avoid contact with skin.

• Avoid contact with eyes.

• Wear suitable protective clothing.

• In case of insufficient ventilation, wear suitable respiratory equipment.

• Wear suitable gloves.

• Wear eye/face protection.

• Handle and open container with care.

• Use only in well ventilated areas.

• Keep container in a well ventilated place.

• Avoid exposure - obtain special instructions before use.

• To clean the floor and all objects contaminated by this material, use water and detergent.

• Keep container tightly closed.

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Section 2 - HAZARDS IDENTIFICATION

S35	• This material and its container must be disposed of in a safe way.
S13	• Keep away from food, drink and animal feeding stuffs.
S26	• In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
S60	• This material and its container must be disposed of as hazardous waste.
S62	• If swallowed do not induce vomiting: seek medical advice immediately and show this container or label.
S63	• In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
hexamethylene diisocyanate polymer	28182-81-2	30-60
hexamethylene diisocyanate	822-06-0	<0.4
propylene glycol monomethyl ether acetate, alpha- isomer	108-65-6	20-40
xylene	1330-20-7	1-9
ethylbenzene	100-41-4	<2
additives		<1
dibutyl tin dilaurate		<1
contains less than 0.1% benzene		

Section 4 - FIRST AID MEASURES

SWALLOWED

- - 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.
- If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

EYE

- 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

- 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.

INHALED

- - If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

NOTES TO PHYSICIAN

- Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically.
- for lower alkyl ethers:

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
 - Watch for signs of respiratory insufficiency and assist ventilation as necessary.
 - Administer oxygen by non-rebreather mask at 10 to 15 l/min.
 - A low-stimulus environment must be maintained.
- for simple esters:

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Section 4 - FIRST AID MEASURES

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
 - Watch for signs of respiratory insufficiency and assist ventilation as necessary.
 - Administer oxygen by non-rebreather mask at 10 to 15 l/min.
 - Monitor and treat, where necessary, for pulmonary oedema .
- 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.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- - Alcohol stable foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

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 flammable.
 - Moderate fire hazard when exposed to heat or flame.
 - Vapour forms an explosive mixture with air.
 - Moderate explosion hazard when exposed to heat or flame.
- Combustion products include: carbon dioxide (CO₂), carbon monoxide (CO), isocyanates, and minor amounts of, hydrogen cyanide, nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.
- Flooding quantities of water only.
 - 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.
 - Presents additional hazard when fire fighting in a confined space.
 - Cooling with flooding quantities of water reduces this risk.
 - Water spray or fog may cause frothing and should be used in large quantities.

FIRE INCOMPATIBILITY

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

HAZCHEM

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Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- - Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact with the substance, by using protective equipment.

MAJOR SPILLS

- - 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 MSDS.

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Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- - Containers, even those that have been emptied, may contain explosive vapours.
 - Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
 - DO NOT allow clothing wet with material to stay in contact with skin.
- The tendency of many ethers to form explosive peroxides is well documented. Ethers lacking non-methyl hydrogen atoms adjacent to the ether link are thought to be relatively safe
- DO NOT concentrate by evaporation, or evaporate extracts to dryness, as residues may contain explosive peroxides with DETONATION potential.
 - Any static discharge is also a source of hazard.
 - Before any distillation process remove trace peroxides by shaking with excess 5% aqueous ferrous sulfate solution or by percolation through a column of activated alumina.
 - Distillation results in uninhibited ether distillate with considerably increased hazard because of risk of peroxide formation on storage.
- The substance accumulates peroxides which may become hazardous only if it evaporates or is distilled or otherwise treated to concentrate the peroxides. The substance may concentrate around the container opening for example. Purchases of peroxidisable chemicals should be restricted to ensure that the chemical is used completely before it can become peroxidised.
- A responsible person should maintain an inventory of peroxidisable chemicals or annotate the general chemical inventory to indicate which chemicals are subject to peroxidation. An expiration date should be determined. The chemical should either be treated to remove peroxides or disposed of before this date.
 - Electrostatic discharge may be generated during pumping - this may result in fire.
 - Ensure electrical continuity by bonding and grounding (earthing) all equipment.
 - Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec).
 - Avoid splash filling.
 - Avoid all personal contact, including inhalation.
 - Wear protective clothing when risk of overexposure occurs.
 - Use in a well-ventilated area.
 - Prevent concentration in hollows and sumps.

SUITABLE CONTAINER

- - Packing as supplied by manufacturer.
- Plastic containers may only be used if approved for flammable liquid.
- Check that containers are clearly labelled and free from leaks.
- For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.
- For materials with a viscosity of at least 2680 cSt. (23 deg. C)
- For manufactured product having a viscosity of at least 250 cSt. (23 deg. C)
- Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C): (i) Removable head packaging; (ii) Cans with friction closures and (iii) low pressure tubes and cartridges may be used.

STORAGE INCOMPATIBILITY

- - Avoid reaction with water, alcohols and detergent solutions.
- Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, strong bases, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidisers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerisation reactions in these materials.
- Isocyanates easily form adducts with carbodiimides, isothiocyanates, ketenes, or with substrates containing activated CC or CN bonds.
- Some isocyanates react with water to form amines and liberate carbon dioxide. This reaction may also generate large volumes of foam and heat. Foaming in confined spaces may produce pressure in confined spaces or containers. Gas generation may pressurise drums to the point of rupture.
- Avoid cross contamination between the two liquid parts of product (kit).
- If two part products are mixed or allowed to mix in proportions other than manufacturer's recommendation, polymerisation with gelation and evolution of heat (exotherm) may occur.
- This excess heat may generate toxic vapour.
- Esters react with acids to liberate heat along with alcohols and acids.
- Strong oxidising acids may cause a vigorous reaction with esters that is sufficiently exothermic to ignite the reaction products.
- Heat is also generated by the interaction of esters with caustic solutions.
- Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.
- Ethers may react violently with strong oxidising agents and acids.
- Ethers are generally stable to water under neutral conditions and ambient temperatures. The ether function is hydrolysed by heating in the presence of halogen acids, particularly hydrogen iodide.
- Glycol ethers may form peroxides under certain conditions; the potential for peroxide formation is enhanced when these substances are used in processes such as distillation where they are concentrated or even evaporated to near-dryness or dryness; storage under a nitrogen atmosphere is recommended to minimise the possible formation of highly reactive peroxides
- Nitrogen blanketing is recommended if transported in containers at temperatures within 15 deg C of the flash-point and at or above the flash-point - large containers may first need to be purged and inerted with nitrogen prior to loading

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- In the presence of strong bases or the salts of strong bases, at elevated temperatures, the potential exists for runaway reactions.
- Contact with aluminium should be avoided; release of hydrogen gas may result- glycol ethers will corrode scratched aluminium surfaces.
- Avoid contamination with water, alkalies and detergent solutions.
- Material reacts with water and generates gas, pressurises containers with even drum rupture resulting.
- DO NOT reseal container if contamination is suspected.
- Open all containers with care.
- Avoid reaction with oxidising agents.

STORAGE REQUIREMENTS

- - Store in original containers in approved flammable liquid storage area.
- Store away from incompatible materials in a cool, dry, well-ventilated area.
- DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
- No smoking, naked lights, heat or ignition sources.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	STEL ppm	STEL mg/m ³	Notes
Australia Exposure Standards	(Isocyanates, all (as-NCO))			0.07	NOHSC documentation available for these values.
Australia Exposure Standards	(1- Methoxy- 2-propanol acetate)	50	100	548	
Australia Exposure Standards	(Xylene (o-, m-, p-isomers))	80	150	655	NOHSC documentation available for these values.
Australia Exposure Standards	(Ethyl benzene)	100	125	543	American Conference of Governmental Industrial Hygienists (ACGIH)4, 5 is the documentation on source

MATERIAL DATA

HEXAMETHYLENE DIISOCYANATE POLYMER:

HEXAMETHYLENE DIISOCYANATE:

- for 1,6-hexamethylene diisocyanate (HDI):

The toxicological action of HDI is similar to that of toluene diisocyanate and the TLV-TWA is analogous. In light of reported asthmatic/ respiratory sensitisation-like responses in HDI exposed workers, individuals who may be hypersusceptible or otherwise unusually responsive may not be adequately protected at this limit.

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■ Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations.

HEXAMETHYLENE DIISOCYANATE:

- for hexamethylenediamine:

Saturated Vapour Concentration: 526 ppm (estimate) at 25 C.

Odour Threshold: 0.0032 mg/m³ (for the most sensitive individual) Hexamethylenediamine is moderately toxic following a single skin application, corrosive to the eye and skin and irritating to the upper respiratory tract.

PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE, ALPHA-ISOMER:

- for propylene glycol monomethyl ether acetate (PGMEA)

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Saturated vapour concentration: 4868 ppm at 20 C.

A two-week inhalation study found nasal effects to the nasal mucosa in animals at concentrations up to 3000 ppm.

XYLENE:

■ 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. (m-xylene and p-xylene give almost the same response).

Exposure limits with "skin" notation indicate that vapour and liquid may be absorbed through intact skin. Absorption by skin may readily exceed vapour inhalation exposure. Symptoms for skin absorption are the same as for inhalation. Contact with eyes and mucous membranes may also contribute to overall exposure and may also invalidate the exposure standard.

ETHYLBENZENE:

■ for ethyl benzene:

Odour Threshold Value: 0.46-0.60 ppm

NOTE: Detector tubes for ethylbenzene, measuring in excess of 30 ppm, are commercially available.

Ethyl benzene produces irritation of the skin and mucous membranes and appears to produce acute and chronic effects on the central nervous system.

Exposed individuals are reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class A or B.

The Odour Safety Factor (OSF) is defined as:

OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm

Classification into classes follows:

Class	OSF	Description
A	550	Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV- TWA for example) is being reached, even when distracted by working activities
B	26- 550	As " A" for 50- 90% of persons being distracted
C	1- 26	As " A" for less than 50% of persons being distracted
D	0.18- 1	10- 50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached
E	<0.18	As " D" for less than 10% of persons aware of being tested

PERSONAL PROTECTION

RESPIRATOR

•Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

EYE

■ - Safety glasses with side shields.

- Chemical goggles.

- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent].

HANDS/FEET

■ - Wear chemical protective gloves, e.g. PVC.

- Wear safety footwear or safety gumboots, e.g. Rubber.

NOTE:

- The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.

- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- Neoprene gloves.

OTHER

- - Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.

ENGINEERING CONTROLS

■ When spraying the MIXED material use a positive air pressure, air supplied full face respirator while spraying and until spray mist has been effectively dispersed.

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.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Clear colourless to pale yellow flammable liquid with a solvent odour; does not mix with water.

Will react with water to produce carbon dioxide.

PHYSICAL PROPERTIES

Liquid.

Does not mix with water.

Floats on water.

State	Liquid	Molecular Weight	Not Available
Melting Range (°C)	Not Available	Viscosity	Not Available
Boiling Range (°C)	145	Solubility in water (g/L)	Immiscible
Flash Point (°C)	50	pH (1% solution)	Not Applicable
Decomposition Temp (°C)	Not Available	pH (as supplied)	Not Applicable
Autoignition Temp (°C)	Not Available	Vapour Pressure (kPa)	Not Available
Upper Explosive Limit (%)	Not Available	Specific Gravity (water=1)	<1
Lower Explosive Limit (%)	Not Available	Relative Vapour Density (air=1)	>1
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available

Section 10 - STABILITY AND REACTIVITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- - Presence of incompatible materials.
 - Product is considered stable.
 - Hazardous polymerisation will not occur.
- For incompatible materials - refer to Section 7 - Handling and Storage.*

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733).

Accidental ingestion of the material may be damaging to the health of the individual.

The main effects of simple esters are irritation, stupor and insensibility. Headache, drowsiness, dizziness, coma and behavioural

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changes may occur. Respiratory symptoms may include irritation, shortness of breath, rapid breathing, throat inflammation, bronchitis, lung inflammation and pulmonary oedema, sometimes delayed. Nausea, vomiting, diarrhoea and cramps are observed. Liver and kidney damage may result from massive exposures.

Ingestion of alkyl ethers may produce stupor, blurred vision, headache, dizziness and irritation of the nose and throat.

Respiratory distress and asphyxia may result.

EYE

■ This material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Moderate inflammation may be expected with redness; conjunctivitis may occur with prolonged exposure.

Eye contact with alkyl ethers (vapour or liquid) may produce irritation, redness and tears.

SKIN

■ Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.

There is some evidence to suggest that the material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Alkyl ethers may defat and dehydrate the skin producing dermatoses. Absorption may produce headache, dizziness, and central nervous system depression.

INHALED

■ Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful.

There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

If exposure to highly concentrated solvent atmosphere is prolonged this may lead to narcosis, unconsciousness, even coma and possible death.

Following inhalation, ethers cause lethargy and stupor. Inhaling lower alkyl ethers results in headache, dizziness, weakness, blurred vision, seizures and possible coma. Low blood pressure, slow heartbeat and cardiovascular collapse may be seen with throat irritation, irregular breathing, pulmonary oedema and respiratory arrest. Nausea, vomiting and salivation may be seen.

There have been deaths reported, and convulsions and paralysis can be found in severe cases. Massive exposures can cause damage to the kidney and liver.

The main effects of simple esters are irritation, stupor and insensibility. Headache, drowsiness, dizziness, coma and behavioural changes may occur. Respiratory symptoms may include irritation, shortness of breath, rapid breathing, throat inflammation, bronchitis, lung inflammation and pulmonary oedema, sometimes delayed. Nausea, vomiting, diarrhoea and cramps are observed. Liver and kidney damage may result from massive exposures.

CHRONIC HEALTH EFFECTS

■ There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.

Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.

Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.

Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material.

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term 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. [CCTRADE-Bayer, APMF].

Animal testing shows that polymeric MDI can damage the nasal cavities and lungs, causing inflammation and increased cell growth.

Respiratory sensitisation may result in allergic/asthma like responses; from coughing and minor breathing difficulties to bronchitis with wheezing, gasping.

Sensitisation may give severe responses to very low levels of exposure, i.e. hypersensitivity. Sensitised persons should not be allowed to work in situations where exposure may occur.

TOXICITY AND IRRITATION

■ Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.

Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Allergy causing activity is due to interactions with proteins.

Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema.

Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure.

The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

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The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

CARCINOGEN

hexamethylene diisocyanate polymer	Australia Exposure Standards	Carcinogen Category	Sen	
hexamethylene diisocyanate	Australia Exposure Standards	Carcinogen Category	Sen	
propylene glycol monomethyl ether acetate, alpha-isomer	Australia Exposure Standards	Carcinogen Category	Sk	
xylene	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	3	Not classifiable as to its carcinogenicity to humans
ethylbenzene	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	2B	Possibly carcinogenic to humans

SKIN

hexamethylene diisocyanate	GESAMP/EHS Composite List - GESAMP Hazard Profiles	D1: skin irritation/corrosion	3
propylene glycol monomethyl ether acetate, alpha-isomer	Australia Exposure Standards - Skin	Notes	Sk
propylene glycol monomethyl ether acetate, alpha-isomer	GESAMP/EHS Composite List - GESAMP Hazard Profiles	D1: skin irritation/corrosion	0
xylene	GESAMP/EHS Composite List - GESAMP Hazard Profiles	D1: skin irritation/corrosion	2
xylene	GESAMP/EHS Composite List - GESAMP Hazard Profiles	D1: skin irritation/corrosion	1
ethylbenzene	GESAMP/EHS Composite List - GESAMP Hazard Profiles	D1: skin irritation/corrosion	2
ethylbenzene	GESAMP/EHS Composite List - GESAMP Hazard Profiles	D1: skin irritation/corrosion	(2)
ethylbenzene	GESAMP/EHS Composite List - GESAMP Hazard Profiles	D1: skin irritation/corrosion	1

Section 12 - ECOLOGICAL INFORMATION

This material and its container must be disposed of as hazardous waste.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
hexamethylene diisocyanate polymer	HIGH	No Data Available	LOW	LOW
hexamethylene diisocyanate	LOW	No Data Available	LOW	MED
propylene glycol monomethyl ether acetate, alpha-isomer	HIGH	No Data Available	LOW	HIGH
xylene	LOW	LOW	LOW	No Data Available
ethylbenzene	LOW	MED	LOW	MED

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Section 13 - DISPOSAL CONSIDERATIONS

- - Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.
- Otherwise:
 - If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
 - Where possible retain label warnings and MSDS and observe all notices pertaining to the product.
 - DO NOT allow wash water from cleaning or process equipment to enter drains.
 - It may be necessary to collect all wash water for treatment before disposal.
 - In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
 - Where in doubt contact the responsible authority.
 - Recycle wherever possible.
 - Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
 - Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material).
 - Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Section 14 - TRANSPORTATION INFORMATION

Labels Required: FLAMMABLE LIQUID

HAZCHEM:

•3Y (ADG7)

ADG7:

Class or Division:	3	Subsidiary Risk:	None
UN No.:	1263	Packing Group:	III
Special Provision:	163 223 *	Limited Quantity:	5 L
Portable Tanks & Bulk Containers - Instruction:	T2	Portable Tanks & Bulk Containers - Special Provision:	TP1 TP29
Packagings & IBCs - Packing Instruction:	P001 IBC03 LP01	Packagings & IBCs - Special Packing Provision:	PP1

Name and Description: PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound) (see 3.2.5 for relevant [AUST.] entries)

Air Transport IATA:

ICAO/IATA Class:	3	ICAO/IATA Subrisk:	None
UN/ID Number:	1263	Packing Group:	III
Special provisions:	A3		
Cargo Only			
Packing Instructions:	366	Maximum Qty/Pack:	220 L
Passenger and Cargo		Passenger and Cargo	
Packing Instructions:	355	Maximum Qty/Pack:	60 L
Passenger and Cargo		Passenger and Cargo	
Limited Quantity		Limited Quantity	
Packing Instructions:	Y344	Maximum Qty/Pack:	10 L

Shipping name:PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)

Maritime Transport IMDG:

IMDG Class:	3	IMDG Subrisk:	None
UN Number:	1263	Packing Group:	III
EMS Number:	F- E, S- E	Special provisions:	163 223 955
Limited Quantities:	5 L		

Shipping name:PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)

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Section 15 - REGULATORY INFORMATION

Indications of Danger:

T Toxic

POISONS SCHEDULE None

REGULATIONS

Regulations for ingredients

hexamethylene diisocyanate polymer (CAS: 28182-81-2,53200-31-0,1192214-73-5) is found on the following regulatory lists;

"Australia - New South Wales - Work Health and Safety Regulation 2011 - Requirements for health monitoring - Hazardous chemicals (other than lead) requiring health monitoring", "Australia - Northern Territories Work Health and Safety National Uniform Legislation Regulations- Requirements for health monitoring - Hazardous chemicals (other than lead) requiring health monitoring", "Australia - Queensland Work Health and Safety Regulation - Hazardous chemicals (other than lead) requiring health monitoring", "Australia - South Australia - Work Health and Safety Regulations 2012 - Requirements for health monitoring - Hazardous chemicals (other than lead) requiring health monitoring", "Australia - Tasmania - Work Health and Safety Regulations 2012 - Requirements for Health Monitoring - Hazardous chemicals (other than lead) requiring health monitoring", "Australia - Western Australia Hazardous Substances Requiring Health Surveillance", "Australia Exposure Standards", "Australia Inventory of Chemical Substances (AICS)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6"

hexamethylene diisocyanate (CAS: 822-06-0) is found on the following regulatory lists;

"Acros Transport Information", "Australia - New South Wales - Work Health and Safety Regulation 2011 - Requirements for health monitoring - Hazardous chemicals (other than lead) requiring health monitoring", "Australia - Northern Territories Work Health and Safety National Uniform Legislation Regulations- Requirements for health monitoring - Hazardous chemicals (other than lead) requiring health monitoring", "Australia - Queensland Work Health and Safety Regulation - Hazardous chemicals (other than lead) requiring health monitoring", "Australia - South Australia - Work Health and Safety Regulations 2012 - Requirements for health monitoring - Hazardous chemicals (other than lead) requiring health monitoring", "Australia - Tasmania - Work Health and Safety Regulations 2012 - Requirements for Health Monitoring - Hazardous chemicals (other than lead) requiring health monitoring", "Australia - Western Australia Hazardous Substances Requiring Health Surveillance", "Australia Exposure Standards", "Australia Inventory of Chemical Substances (AICS)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6", "Sigma-Aldrich Transport Information"

PGMA SOLVENT (CAS: 108-65-6,84540-57-8,142300-82-1) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Inventory of Chemical Substances (AICS)", "Fisher Transport Information", "Sigma-Aldrich Transport Information"

xylene (CAS: 1330-20-7) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "Australia Inventory of Chemical Substances (AICS)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix I", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7", "Fisher Transport Information", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs"

ethylbenzene (CAS: 100-41-4) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "Australia Inventory of Chemical Substances (AICS)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7", "Fisher Transport Information", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "Sigma-Aldrich Transport Information"

No data for (CW: 5135-97)

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
propylene glycol monomethyl ether acetate, alpha- isomer	84540- 57- 8	Mut3; R68

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
hexamethylene diisocyanate polymer	28182- 81- 2, 53200- 31- 0, 1192214- 73- 5
propylene glycol monomethyl ether acetate, alpha- isomer	108- 65- 6, 84540- 57- 8, 142300- 82- 1

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Section 16 - 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.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

■ The (M)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.

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This is the end of the MSDS.