CC5/65 PART B

Version	2.0	Chemwatch25-9878
Chemwatch Material Safety Data Sheet (Conforms to Reg. (EC) No 1907/2006, Reg. (EC) No 1272/2008 and their amendments)		Print Date: 8-Nov-2011
CHEMWATCH SDS		Revision Date: 7-Mar-2011
		Issue Date: 7-Mar-2011

SAFETY DATASHEET

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

1.1. Product Identifier

Product name:	CC5/65 PART B
Chemical product name:	No data available
Synonyms:	No data available
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(contains di-(methylthio)toluenediamine)
Chemical formula:	No data available
Other means of identification:	No data available
Index number:	No data available
ID number:	No data available
CAS number:	No data available
REACH registration number:	No data available
EC number:	Not Available

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

Relevant identified uses:	Used according to manufacturer's directions. Polyurethane elastomer curative.
Uses advised against:	No data available

1.3. Details of the supplier of the safety data sheet

Registered company name:	Era Polymers Pty Ltd
Address:	25-27 Green Street,Banksmeadow,NSW, 2019,AUS
Telephone:	+61 2 9666 3788
Fax:	+61 2 9666 4805
Email:	
Website:	

1.4. Emergency telephone number

Association / Organisation:	
Other emergency telephone numbers:	1800 039 008 (AUS)
Other emergency telephone numbers:	+61 3 9573 3112 ; +800 2436 2255(INTL)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

DSD classification:	In case of mixtures, classification has been prepared by following DPD (Directive 1999/45/EC) or CLP (Regulation (EC) No 1272/2008) regulations	
DSD classification (additional):	No data available	
DPD classification:	R22	• Harmful if swallowed.
	R43	• May cause SENSITISATION by skin contact.
	R51/53	• Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
CLP classification:	Chronic Aquatic Hazard Category 2 Acute Toxicity (Oral) Category 4 Skin Sensitizer Category 1	
CLP classification (additional):	No data available	

2.2. Label elements

CLP label elements

Signal word:	WARNING

Hazard statement(s):	H411	Toxic to aquatic life with long lasting effects
	H302	Harmful if swallowed
	H317	May cause allergic skin reaction
	H401	Toxic to aquatic life

Determined by Chemwatch using CLP criteria

Additional Statement(s):	No data available
Supplementary statement(s):	No data available

Precautionary statement(s):

Prevention

Code	Phrase
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash ... 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.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response

Code	Phrase
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P330	Rinse mouth.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.

Disposal

Code	Phrase
P501	Dispose of contents/container to ...

DSD / DPD label elements

Relevant risk statements are found in section 2.1

Indication(s) of danger:	CONSIDERED A DANGEROUS MIXTURE ACCORDING TO DIRECTIVE 1999/45/EC AND ITS AMENDMENTS.	
Safety advice:	S23	Do not breathe gas/fumes/vapour/spray.
	S24	Avoid contact with skin.
	S36	Wear suitable protective clothing.
	S37	Wear suitable gloves.
	S29	Do not empty into drains.
	S401	To clean the floor and all objects contaminated by this material, use water and detergent.
	S35	This material and its container must be disposed of in a safe way.
	S13	Keep away from food, drink and animal feeding stuffs.
	S46	If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).
	S57	Use appropriate container to avoid environmental contamination.
	S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.
	S60	This material and its container must be disposed of as hazardous waste.

2.3. Other hazards

No data available

PBT/vPvB criteria	No data available

SECTION 3: Composition / information on ingredients

3.1. Substances

See 'Composition on ingredients' in section 3.2

3.2. Mixtures

1. CAS No **2. EC No** **3. Index No** **4. REACH No**	**%[weight]**	**Name**	**Classification according to Directive 1999/45/EC [DPD]**		**Classification according to (EC) No 1272/2008 [CLP]**
1. 25322-69-4 2. 500-039-8 3. 500-039-8 4. No data available	30-60	polypropylene glycol	Xn	R21	• Acute Toxicity Category 4
					Acute Tox. 4 *

1. 106264-79-3 2. 403-240-8 3. 612-113-00-8 4. No data available	1-10	di-(methylthio)toluenediamine	Xn N	R22 R50/53 R43	Skin Sens. 1 Aquatic Acute 1 Aquatic Chronic 1 CLP classification according to Annex VI of CLP (Regulation (EC) No 1272/2008)
1. 26545-49-3 2. 247-783-7 3. 247-783-7 4. No data available	<1	phenyl mercury neodecanoate	T+ C N	R34 R50/53 R26/27/28 R33 R41 R48/24/25	• Acute Toxicity Category 1 • Acute Toxicity Category 1 • Acute Toxicity Category 2 • Chronic Aquatic Hazard Category 1 • Serious Eye Damage Category 1 • Skin Corrosion/Irritation Category 1C • STOT - RE Category 1

SECTION 4: First aid measures

4.1. Description of first aid measures

General: No data available

Ingestion:

- **IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.**
- For advice, contact a Poisons Information Centre or a doctor.
- Urgent hospital treatment is likely to be needed.
- In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.
- If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the MSDS should be provided. Further action will be the responsibility of the medical specialist.
- If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the MSDS.

Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:

- **INDUCE** vomiting with fingers down the back of the throat, **ONLY IF CONSCIOUS**. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

NOTE: Wear a protective glove when inducing vomiting by mechanical means.

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.

4.2. Most important symptoms and effects, both acute and delayed

Inhaled:

• Not normally a hazard due to non-volatile nature of product.

• Inhalation hazard is increased at higher temperatures.

• Inhalation of epoxy resin amine hardener vapours (including polyamines and amine adducts) may produce bronchospasm and coughing episodes lasting days after cessation of the exposure. Even faint traces of these vapours may trigger an intense reaction in individuals showing "amine asthma". The literature records several instances of systemic intoxications following the use of amines in epoxy resin systems.

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.
Ingestion of amine epoxy-curing agents (hardeners) may cause severe abdominal pain, nausea, vomiting or diarrhoea. The vomitus may contain blood and mucous. If death does not occur within 24 hours there may be an improvement in the patients condition for 2-4 days only to be followed by the sudden onset of abdominal pain, board-like abdominal rigidity or hypo-tension; this indicates that delayed gastric or oesophageal corrosive damage has occurred.
Adverse effects associated with the administration of central nervous system stimulants include dyspnea, coughing, bronchospasm, and laryngospasm. Muscular involvement may produce symptoms ranging from fasciculation to spasticity or seizures. Headache, dizziness and confusion may also result as can hyperpyrexia or a sensation of warmth. Other symptoms may include nausea, vomiting, diarrhoea and difficulty in urination. Cardiovascular involvement may produce alterations in blood pressure or arrhythmia.

Skin Contact: • Open cuts, abraded or irritated skin should not be exposed to this material.

Eye:

Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

Chronic:

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.

Amine epoxy-curing agents (hardeners) may produce primary skin irritation and sensitisation dermatitis in predisposed individuals. Cutaneous reactions include erythema, intolerable itching and severe facial swelling. Blistering, with weeping of serious fluid, and crusting and scaling may also occur. Individuals exhibiting "amine dermatitis" may experience a dramatic reaction upon re-exposure to minute quantities. Highly sensitive persons may even react to cured resins containing trace amounts of unreacted amine hardener. Minute quantities of air-borne amine may precipitate intense dermatological symptoms in sensitive individuals. Prolonged or repeated exposure may produce tissue necrosis.

As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
The material may induce methaemoglobinaemia following exposure.

- Initial attention should be directed at oxygen delivery and assisted ventilation if necessary. Hyperbaric oxygen has not demonstrated substantial benefits.
- Hypotension should respond to Trendelenburg's position and intravenous fluids; otherwise dopamine may be needed.
- Symptomatic patients with methaemoglobin levels over 30% should receive methylene blue. (Cyanosis, alone, is not an indication for treatment). The usual dose is 1-2 mg/kg of a 1% solution (10 mg/ml) IV over 50 minutes; repeat, using the same dose, if symptoms of hypoxia fail to subside within 1 hour.
- Thorough cleansing of the entire contaminated area of the body, including the scalp and nails, is of utmost importance.

BIOLOGICAL EXPOSURE INDEX - BEI

These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

Determinant	Index	Sampling Time	Comment
1. Methaemoglobin in blood	1.5% of haemoglobin	During or end of shift	B, NS, SQ

B: Background levels occur in specimens collected from subjects **NOT** exposed
NS: Non-specific determinant; also observed after exposure to other materials
SQ: Semi-quantitative determinant - Interpretation may be ambiguous; should be used as a screening test or confirmatory test.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. 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

5.3. Advice for firefighters

Fire Fighting:

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- **DO NOT** approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.

Fire/Explosion Hazard:

- Combustible.
- Slight fire hazard when exposed to heat or flame.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).
- May emit acrid smoke.
- Mists containing combustible materials may be explosive.

Combustion products include:
carbon dioxide (CO_2)
other pyrolysis products typical of burning organic material
May emit poisonous fumes.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal Protective Equipment: Breathing apparatus.Gas tight chemical resistant suit.Limit exposure duration to 1 BA set 30 mins.

Minor Spills:

Environmental hazard - contain spillage.

- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.
- Wipe up.
- Place in a suitable, labelled container for waste disposal.

Major Spills:

Environmental hazard - contain spillage.
Moderate hazard.

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- No smoking, naked lights or ignition sources.
- Increase ventilation.

- Stop leak if safe to do so.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise emergency services.

6.2. Environmental precautions

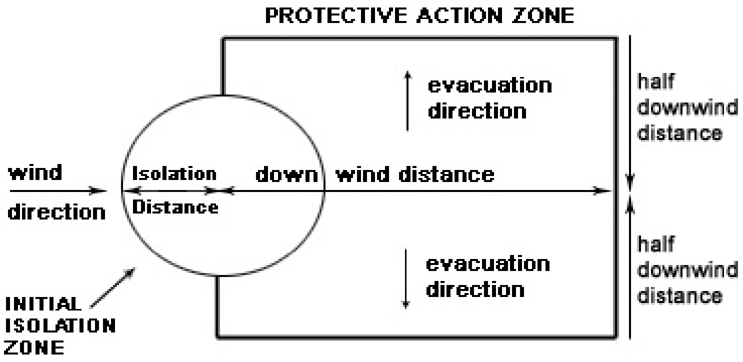
See section 12

6.3. Methods and material for containment and cleaning up

is taken from the US DOT emergency response guide book.

6 IERG information is derived from CANUTEC - Transport Canada.

PROTECTIVE ACTIONS FOR SPILL



From IERG (Canada/Australia)

Isolation Distance	-
Downwind Protection Distance	10 metres
IERG Number	47

FOOTNOTES

1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the vapour plume to an area within 30 degrees on either side of the predominant wind direction, resulting in a crosswind protective action distance equal to the downwind protective action distance.

2 PROTECTIVE ACTIONS should be initiated to the extent possible, beginning with those closest to the spill and working away from the site in the downwind direction. Within the protective action zone a level of vapour concentration may exist resulting in nearly all unprotected persons becoming incapacitated and unable to take protective action and/or incurring serious or irreversible health effects.

3 INITIAL ISOLATION ZONE is determined as an area, including upwind of the incident, within which a high probability of localised wind reversal may expose nearly all persons without appropriate protection to life-threatening concentrations of the material.

4 SMALL SPILLS involve a leaking package of 200 litres (55 US gallons) or less, such as a drum (jerrican or box with inner containers). Larger packages leaking less than 200 litres and compressed gas leaking from a small cylinder are also considered "small spills".

LARGE SPILLS involve many small leaking packages or a leaking package of greater than 200 litres, such as a cargo tank, portable tank or a "one-tonne" compressed gas cylinder.

5

From US Emergency Response Guide 2000 Guide 171

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the MSDS

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe handling

- **DO NOT** allow clothing wet with material to stay in contact with skin

- 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.
- **DO NOT** enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights or ignition sources.
- Avoid contact with incompatible materials.
- When handling, **DO NOT** eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

Fire and explosion protection See section 5

Other information

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS

					
+	X	+	X	X	+

+: May be stored together.
O: May be stored together with specific preventions.
X: Must not be stored together.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container:

- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

Storage incompatibility:

- Avoid reaction with oxidising agents
- Avoid strong acids, bases.

Package Material Incompatibilities: No data available

7.3. Specific end use(s)

See section 1.2

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Derived No Effect Level (DNEL)

Exposure Pattern	Workers	General Population	Exposure Pattern	Workers	General Population
Long term - dermal, systemic effects	-	-	**Short term - dermal, systemic effects**	No data available	No data available
Long term - inhalation, systemic effects	-	-	**Short term - inhalation, systemic effects**	No data available	No data available
Long term - oral, systemic effects	-	-	**Short term - oral, systemic effects**	No data available	No data available
Long term - dermal, local effects	-	-	**Short term - dermal, local effects**	No data available	No data available
Long term - inhalation, local effects	-	-	**Short term - inhalation, local effects**	No data available	No data available

Occupational Exposure Limits (OEL)

The following materials had no OELs on our records

• polypropylene glycol:	CAS:25322-69-4 CAS:29434-03-5
• di-(methylthio)toluenediamine:	CAS:106264-79-3
• phenyl mercury neodecanoate:	CAS:26545-49-3

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m³)	Revised IDLH Value (ppm)
phenyl mercury neodecanoate|35506	10	

DI-(METHYLTHIO)TOLUENEDIAMINE: POLYPROPYLENE GLYCOL:

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. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no-observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five-category system based on intensive odour, local irritation, and elimination half-life. However this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this is more closely allied to that of the USA.

OSHA (USA) concluded that exposure to sensory irritants can:

- cause inflammation
- cause increased susceptibility to other irritants and infectious agents
- lead to permanent injury or dysfunction
- permit greater absorption of hazardous substances and
- acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure.

CC90A PART B:

Not available

POLYPROPYLENE GLYCOL: OEL TWA: 10 mg/m3 (compare WEEL-TWA) The polypropylene glycols (PPG) are not significantly irritating to the eyes or skin. The polypropylene glycols with average molecular weights of >2000 have very low oral toxicities and those with molecular weights of 200-1200 have moderate acute oral toxicity. All PPGs have low chronic oral toxicity. All the PPGs have extremely low vapour pressure and inhalation exposure is limited to mists. Industrial exposure would not be expected to produce central nervous system stimulant effects observed in animals fed at high oral doses with lower molecular weight products. The workplace environmental exposure limit (WEEL) recommended by the AIHA is that for nuisance dusts (mists). PHENYL MERCURY NEODECANOATE:

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.

8.2. Exposure controls

8.2.1. Appropriate engineering controls

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. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.
Employers may need to use multiple types of controls to prevent employee overexposure.

Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.
An approved self contained breathing apparatus (SCBA) may be required in some situations.
Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

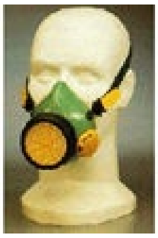
Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min.)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

8.2.2. Personal protection



Eye and face protection:

- 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]

Skin protection: See Hand protection: below

Hand protection:

- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear or safety gumboots, eg. 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.

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

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Body protection: See Other protection: below

Other protection:

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

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

Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.

Thermal hazards: No data available

Recommended material(s): 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:

Material	**CPI**

* 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.

8.2.3. Environmental exposure controls

See section 12

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear light amber liquid; does not mix with water.
Odour	No data available
Odour threshold	No data available
Taste	No data available
pH (1% solution)	No data available
pH (as supplied)	No data available
Melting point / freezing point (°C)	No data available
Initial boiling point and boiling range (°C)	No data available
Flash point (°C)	No data available
Evaporation rate	No data available
Flammability	No data available
Vapour pressure (kPa)	No data available
Vapour density (Air = 1)	No data available
Relative density (Water = 1)	1.15
Solubility in Water (g/L)	Immiscible
Partition coefficient: n-octanol / water	No data available
Auto-ignition temperature (°C)	No data available
Critical temperature (°C)	No data available
Viscosity (cSt)	No data available
Explosive properties	No data available
Oxidising properties	No data available
Physical state	Liquid
Upper Explosive Limit (%)	No data available
Lower Explosive Limit (%)	No data available
Surface Tension	No data available
Volatile Component (%vol)	No data available
Gas group	No data available
Molecular weight (g/mol)	No data available
Evaporation Rate (BuAc = 1 | EtAc = 1 | Ether = 1)	No data available
IUCLID Remarks	No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity See section 7.2

10.2. Chemical stability ¦

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

.

10.3. Possibility of hazardous See section 7.2

	reactions	
10.4.	**Conditions to avoid**	See section 7.2
10.5.	**Incompatible materials**	See section 7.2
10.6.	**Hazardous decomposition products**	See section 5.3

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Mutagenicity:	No data available
Reproductive Toxicity:	No data available
Carcinogenicity:	No data available
STOT - single exposure:	No data available

unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.OC90A PART B: Not available. Refer to individual constituents.POLYPROPYLENE GLYCOL:

TOXICITY	IRRITATION
Oral (rat) LD50: 9760 mg/kg	Skin (rabbit): 500 mg Mild
Oral (Rat) LD50: 2410 mg/kg **	
Dermal (Rabbit) LD50: 500 mg/kg **	

The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.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 spongy layer (spongiosis) and intracellular oedema of the epidermis.** Rohm and Haas Paraplex WP-1 MSDSDI-(METHYLTHIO)TOLUENEDIAMINE:

TOXICITY	IRRITATION
Oral (rat) LD50: 1515 mg/kg *	Nil Reported
Dermal (rabbit) LD50: >2000 mg/kg * * [Abermarle Corp.]	

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.p-Phenylenediamines are oxidised by the liver microsomal enzymes (S9). Pure p-phenylenediamine is non-mutagenic in but becomes mutagenic after it is oxidized. Azo dyes containing phenylenediamine are mutagenic in certain assay most likely due to the formation of oxidized p-phenylenediamine. Modification of the moieties that can be metabolized to p-phenylenediamine by sulfonation, carboxylation or copper complexation eliminated the mutagenic responses.Rats given di(methylthio)toluenediamines in the diet for up to 90 days showed increased liver metabolic activity. There were kidney effects observed that were unique to male rats. These effects were similar to changes that have been observed in male rats given hydrocarbons. These effects resolved in animals allowed 30 days recovery. Rats treated for 24 months did not have microscopic alterations in any tissues compared to control animals. Tumors seen in control and treated animals were unusual for the age and strain of rats.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.PHENYL MERCURY NEODECANOATE: No significant acute toxicological data identified in literature search.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. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

SECTION 12: Ecological information

12.1. Toxicity

Fish:	No data available
Daphnia Magna:	No data available
Algae:	No data available
Toxic to aquatic micro-organisms:	No data available

PHENYL MERCURY NEODECANOATE: DI-(METHYLTHIO)TOLUENEDIAMINE:
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.
Wastes resulting from use of the product must be disposed of on site or at approved waste sites.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
DI-(METHYLTHIO)TOLUENEDIAMINE: PHENYL MERCURY NEODECANOATE: POLYPROPYLENE GLYCOL:
DO NOT discharge into sewer or waterways.
POLYPROPYLENE GLYCOL:

Fish LC50 (96hr.) (mg/l):	650-1700

Ecotoxicity Fish LC50: 1000 mg/l Daphnia magna EC50: 4000 mg/l Anaerobic effects: no degradradataion Degradation Biological: only with synth. sewage DI-(METHYLTHIO)TOLUENEDIAMINE:

Marine Pollutant	Yes

Phenylenediamines are not readily biodegradable via CO2 evolution, but they are susceptible to both hydrolysis and photodegradation. These materials have been shown not to partition to water or air if released into the environment due to their low water solubility and low vapor pressure. Analytical studies of hydrolysis products indicate that the molecule cleaves at the aromatic carbon-nitrogen bond.
It is difficult to define clearly the ways in which phenylenediamines are eliminated from the hydrosphere. Elimination processes such as oxidation reactions, adsorption, and stripping effects can only be conjectured. It is impossible to say with any degree of certainty for any of the three isomers what proportion of their elimination is accounted for by biodegradation. The following elimination rates have been found: between 0 and 69 % for o-phenylenediamine, between 0 and 60 % for m-phenylenediamine and between 0 and 100 % for p-phenylenediamine. It is assumed that any phenylenediamines released into the atmosphere are destroyed by photodegradation. The calculated half-life is less than 2 hours. The low POW values indicate that bioaccumulation is unlikely to occur to any significant degree. Only one study has dealt with the behaviour of phenylenediamines in soil, in respect to their soil sorption

and geoaccumulation. According to this study, adsorption is relatively strong at low concentrations and expandable clay minerals but quite weak at higher concentrations. No information is available on the sorption behaviour against organic material.

The substituted p-phenylenediamines and presumably the other isomers, in general, are very toxic to aquatic organisms.
Aromatic amines (arylamines), particularly primary aromatic amines, covalently and irreversibly bind to humic substances present in most natural waters.
All metabolites with moieties of: anilines, benzidines and toluidines are of environmental concern. Anilines and benzidines are both acutely toxic and toxic depending on the specific aquatic species (except algae). Toluidines represent a similar concern, It has been speculated that aqueous solutions of aromatic amines can be oxidised by organic radicals, but there are no actual data on reaction rates. Based on a study of reaction rate data for these compounds an estimate of the half-life of aromatic amines in water is approximately 100 days, assuming a peroxy radical concentration of 10-10 mole/L in sunlit, oxygenated water
Kow 12022 log Kow 3.64 (estimated) Koc 4365 log 3.64 (estimated) Henry's Law Constant 3 E-8 atm-m^3/mol Bioconcentration: 3.40 (estimated) Aquatic processes: 3.8 hours (River model: 1 m deep, 1 m/s flow, 3 m/s wind. Non-persistent in the environment. Leaching in sediment or soil not significant. Does not bioaccumulate to any great degree. Not appreciably volatile from water. PHENYL MERCURY NEODECANOATE:

Marine Pollutant Yes

Mercury may occur in the environment as free mercury, Hg(0), mercury ions in salts and complexes, Hg+ and (Hg2)2+ and as organic mercury compounds. Each species has its own set of physical, chemical and toxicologic properties.
In natural systems a dynamic equilibrium between soil and water mercury occurs determined largely by the physicochemical and biological conditions which pertain. Mercury ion is transported to aquatic ecosystems via surface run-off and from the atmosphere. It is complexed or tightly bound to both inorganic and organic particles, particularly sediments with high sulfur content. Organic acids such as fulvic and humic acids are often associated with mercury not bound to particles. Methyl mercury is produced by sediment micro-organisms, nonbiologically in sediments and by certain species of fish. The methylation of mercury by micro-organisms is the detoxification response that allows the organism to dispose of the heavy metal ions as small organometallic complexes. Methylation occurs only within a narrow pH range in which the micro-organism might exist and the rate of synthesis depends on the redox potential, composition of the microbial population, availability of Hg2+ and temperature. Vitamin B12 derivatives are thought to be the methylating agents, because they are the only methyl carbanion- or methyl radical-donating coenzymes known. In addition it has been demonstrated that the livers of yellow-fin tuna and albacore produce methyl mercury results in its desorption at relatively high rates thus little methyl mercury is found in sediments. Demethylation by sediment micro-organisms also occurs at a rapid rate compared with methylation. The best conversion rate for inorganic mercury to methyl mercury under ideal conditions is less than 1.5% per month. Methyl mercury released into surface waters may also undergo photodecomposition into mercury.
Methyl mercury can be bioaccumulated by planktonic algae and fish. In fish, the rate of absorption of methyl mercury is faster than that of inorganic mercury and the clearance rate is slower resulting in high concentrations of methyl mercury in muscle tissue. The ratio of organic mercury to total mercury is generally high in fish compared with other aquatic organisms. Selenium which is also present in seawater and other seafoods readily complexes with methyl mercury and is thought to have a protective effect against the toxic action of methyl mercury. The danger of methyl mercury poisoning has been illustrated in Minimata, Japan in the late 1950s following industrial release of mercury into the bay which subsequently resulted in at least 1200 cases of poisoning, some fatal.

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
polypropylene glycol	LOW

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

	P	B	T
Relevant available data	No data available	No data available	No data available
PBT and vPvB Criteria fulfilled?	No data available	No data available	No data available

12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product / Packaging disposal:

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.
A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

- **DO NOT** allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.

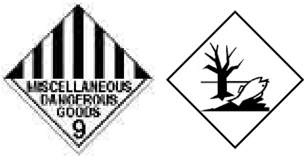
- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Authority for disposal.
- Bury or incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorised landfill.

Waste treatment options:	
Sewage disposal options:	No relevant data
Other disposal recommendations:	

SECTION 14: Transport information

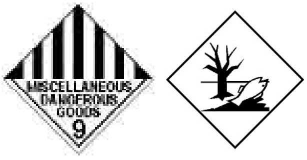
Labels Required:	MISCELLANEOUS

Land transport (ADR / RID / GGVSE)



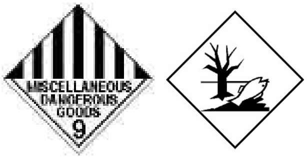
14.1. UN number	3082	**14.4. Packing group**	III	
14.2. UN proper shipping name	Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(contains di-(methylthio)toluenediamine)	**14.5. Environmental hazard**	No relevant data	
14.3. Transport hazard class(es)	9	**14.6. Special precautions for user**	Hazard identification (Kemler)	90
			Classification Code	M6
			Hazard Label	9
			Special provisions	274 335 601
			Add limited quantity	5 L

Air transport (ICAO-IATA / DGR)



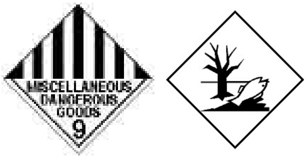
14.1. UN number	3082	**14.4. Packing group**	III	
14.2. UN proper shipping name	Shipping Name: Environmentally hazardous substance, liquid, n.o.s. *(contains di-(methylthio)toluenediamine)	**14.5. Environmental hazard**	No relevant data	
14.3. Transport hazard class(es)	ICAO/IATA Class (Subrisk): 9 ERG Code 9L	**14.6. Special precautions for user**	Special provisions	A97
			Cargo Only Packing Instructions	964
			Cargo Only Maximum Qty / Pack	450 L
			Passenger and Cargo Packing Instructions	964
			Passenger and Cargo Maximum Qty / Pack	450 L
			Passenger and Cargo Limited Quantity Packing Instructions	Y964
			Passenger and Cargo Maximum Qty / Pack	30 kg G

Sea transport (IMDG-Code / GGVSee)



14.1. UN number	3082	**14.4. Packing group**	III	
14.2. UN proper shipping name	Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(contains di-(methylthio)toluenediamine)	**14.5. Environmental hazard**	No relevant data	
14.3. Transport hazard class(es)	9 **IMDG Subrisk** None	**14.6. Special precautions for user**	EMS Number	F-A,S-F
			Special provisions	274 335
			Limited Quantities	5 L

Inland waterways transport (ADNR / River Rhine)



14.1. UN number	3082	**14.4. Packing group**	III	
14.2. UN proper shipping name	Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(contains di-(methylthio)toluenediamine)	**14.5. Environmental hazard**	No relevant data	
14.3. Transport hazard class(es)	9 **ADNR** 9	**14.6. Special precautions for user**	Classification code	M6
			Limited quantity	LQ7

Label

Equipment required	PP
Fire cones number	0

14.7. Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code

No data available

SECTION 15: Regulatory information

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

Regulations for ingredients

polypropylene glycol (CAS: 25322-69-4,29434-03-5) is found on the following regulatory lists;

"EU Directive 2002/72/EC Plastic materials and articles intended to come into contact with foodstuffs - Annex II Section A: List of authorised monomers and other starting substances","EU Directive 2002/72/EC Plastic materials and articles intended to come into contact with foodstuffs - Annex III Section A Incomplete list of additives fully harmonised at Community level","European Chemicals Agency (ECHA) List of substances identified for registration in 2010","European Customs Inventory of Chemical Substances (English)","European Union (EU) Inventory of Ingredients used in Cosmetic Products","European Union (EU) No-Longer Polymers List (NLP) (67/548/EEC)","GESAMP/EHS Composite List - GESAMP Hazard Profiles","IMO IBC Code Chapter 17: Summary of minimum requirements","International Fragrance Association (IFRA) Survey: Transparency List"

di-(methylthio)toluenediamine (CAS: 106264-79-3) is found on the following regulatory lists;

"European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31","European Union (EU) Control of Major Accident Hazards Involving Dangerous Substances - Seveso Category","European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI"

phenyl mercury neodecanoate (CAS: 26545-49-3) is found on the following regulatory lists;

"European Customs Inventory of Chemical Substances (English)","European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)"

No data for CC5/65 PART B (CW: 25-9878)

This safety data sheet is in compliance with the following EU legislation and its adaptations – as far as applicable - : 67/548/EEC, 1999/45/EC, 98/24/EC, 92/85/EEC, 94/33/EC, 91/689/EEC, 1999/13/EC, Regulation (EU) No 453/2010, Regulation (EC) No 1907/2006, Regulation (EC) No 1272/2008, and their amendments as well as the following British legislation:

- The Control of Substances Hazardous to Health Regulations (COSHH) 2002
- COSHH Essentials
- The Management of Health and Safety at Work Regulations 1999

15.2. Chemical safety assessment

ANNEX 1

Ingredient	Annex 1 67/548/EEC
di-(methylthio)toluenediamine	612-113-00-8

Annex VI

Chronic Aquatic Hazard Category 2

Acute Toxicity (Oral) Category 4

Skin Sensitizer Category 1

RISK

Risk Codes	Risk Phrases
R22	Harmful if swallowed.
R43	May cause SENSITISATION by skin contact.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SECTION 16: Other information

ANNEX 2: Indications of Danger

C	Corrosive
N	Dangerous for the environment
T+	Very toxic
Xn	Harmful

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
polypropylene glycol	25322-69-4, 29434-03-5

OTHER

- 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. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

- For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:
EN 16 Personal eye-protection
EN 340 Protective clothing
EN 374 Protective gloves against chemicals and micro-organisms
EN 13832 Footwear protecting against chemicals
EN 133 Respiratory protective devices

Issue Date: 7-Mar-2011

Not applicable