

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** ISOCYANATE  
**Synonym(s)** ISOCYANATE

### 1.2 Uses and uses advised against

**Use(s)** ADHESIVE • HARDENER • TWO COMPONENT PACK

### 1.3 Details of the supplier of the safety data sheet

**Supplier name** COATING & INDUSTRIAL TECHNOLOGIES PTY LTD  
**Address** F3-28 Commercial Drive, Dandenong, VICTORIA, Australia, 3175  
**Telephone** 03 9706 5586  
**Fax** 03 9768 3197  
**Email** info@coatings.com.au  
**Website** http://www.coatings.com.au

### 1.4 Emergency telephone number(s)

**Emergency** 03 9706 5586

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS Classification(s)** Flammable Liquids: Category 3  
Skin Sensitization: Category 1  
Respiratory Sensitization: Category 1  
Aquatic Toxicity (Chronic): Category 3

### 2.2 Label elements

**Signal word**

**DANGER**

**Pictograms**



### Hazard statement(s)

H226 Flammable liquid and vapour.  
H317 May cause an allergic skin reaction.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H412 Harmful to aquatic life with long lasting effects.

### Prevention statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ventilating/lighting equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment. This statement does not apply where this is the intended use.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P285 In case of inadequate ventilation wear respiratory protection.

### Response statement(s)

P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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P304 + P341	IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P321	Specific treatment is advised - see first aid instructions.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P363	Wash contaminated clothing before reuse.
P370 + P378	In case of fire: Use appropriate media for extinction (applies if water increases risk).
<b>Storage statement(s)</b>	
P403 + P235	Store in a well-ventilated place. Keep cool.
<b>Disposal statement(s)</b>	
P501	Dispose of contents/container in accordance with relevant regulations.

**2.3 Other Hazards**

No information provided.

**3. COMPOSITION/ INFORMATION ON INGREDIENTS****3.1 Substances / Mixtures**

Ingredient	CAS number	EC number	Content
N-BUTYL ACETATE	123-86-4	204-658-1	1-10%
SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	64742-95-6	265-199-0	1-10%
HEXAMETHYLENE DIISOCYANATE (HMDI)	822-06-0	212-485-8	<0.15%
HEXANE 1,6-DIISOCYANATE HOMOPOLYMER	28182-81-2	500-060-2	>60%

**4. FIRST AID MEASURES****4.1 Description of first aid measures**

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator where an inhalation risk exists. Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
<b>First aid facilities</b>	Eye wash facilities and safety shower should be available.

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

May cause sensitisation by inhalation and skin contact. Individuals with pre-existing respiratory impairment (eg asthmatics) or known sensitivities to isocyanates should avoid exposure.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

**5. FIREFIGHTING MEASURES****5.1 Extinguishing media**

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains and waterways.

**5.2 Special hazards arising from the substance or mixture**

Flammable. May evolve toxic gases (carbon/ nitrogen oxides, isocyanates, cyanides, hydrocarbons) when heated to decomposition. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, etc when handling. Earth containers when dispensing fluids.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

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## 5.4 Hazchem code

●3Y

- Alcohol resistant foam is the preferred firefighting medium
- 3 Foam
- Y Self Contained Breathing apparatus and protective gloves.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Only trained personnel should undertake clean up.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled and protected from physical damage when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation and fire protection systems.

### 7.3 Specific end use(s)

No information provided.

## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure standards

Substance	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Isocyanates, all (as-NCO)	SWA (AUS)	--	0.02	--	0.07
n-Butyl acetate	SWA (AUS)	150	713	200	950

#### Biological limits

No biological limit values have been entered for this product.

### 8.2 Exposure controls

#### Engineering Controls

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Flammable/explosive vapours may accumulate in poorly ventilated areas. Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard.

#### PPE

- Eye/Face** Wear splash-proof goggles.
- Hand** Wear PVA or viton (R) gloves.
- Body** Wear coveralls.
- Respiratory** Wear a Type A (Organic vapour) respirator. If sanding dry product, wear a Class P1 (Particulate) respirator. If spraying, with prolonged use, or if in confined areas, wear an Air-line respirator.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	YELLOW LIQUID
<b>Odour</b>	SOLVENT ODOUR
<b>Odour Threshold</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE
<b>Melting Point</b>	NOT AVAILABLE
<b>Boiling Point</b>	NOT AVAILABLE
<b>Flash Point</b>	23°C to 61°C
<b>Evaporation Rate</b>	NOT AVAILABLE
<b>Flammability</b>	FLAMMABLE
<b>Upper Explosion Limit</b>	NOT AVAILABLE
<b>Lower Explosion Limit</b>	NOT AVAILABLE
<b>Vapour Pressure</b>	NOT AVAILABLE
<b>Vapour Density</b>	NOT AVAILABLE
<b>Solubility (water)</b>	INSOLUBLE
<b>Partition Coefficient</b>	NOT AVAILABLE
<b>Autoignition Temperature</b>	NOT AVAILABLE
<b>Decomposition Temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive Properties</b>	NOT AVAILABLE
<b>Oxidising Properties</b>	NOT AVAILABLE
<b>Specific Gravity</b>	1.13

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
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**10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

Carefully review all information in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

May polymerise on contact with water or other materials that react with isocyanates.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide), alcohols, amines, heat and ignition sources. Reacts with water or moisture, generating carbon dioxide, which may cause container rupture.

**10.6 Hazardous decomposition products**

May evolve toxic gases (carbon/ nitrogen oxides, isocyanates, cyanides, hydrocarbons) when heated to decomposition.

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

<b>Health hazard summary</b>	Harmful - irritant. This product has the potential to cause adverse health effects. Use safe work practices to avoid eye or skin contact and inhalation. Over exposure may result in respiratory irritation with asthma-like symptoms. Potential skin and respiratory sensitising agent. Over exposure may result in permanent lung damage. Chronic exposure to some solvents may result in anaemia and liver, kidney and central nervous system (CNS) damage. Individuals with pre-existing respiratory impairment (eg asthmatics) may be more susceptible to adverse health effects.
<b>Eye</b>	Irritant. Contact may result in irritation, lacrimation, pain and redness. May result in burns with prolonged contact.
<b>Inhalation</b>	Harmful - irritant. Over exposure may result in irritation of the nose and throat, coughing, nausea and vomiting. May cause sensitisation by inhalation. High level exposure may result in dizziness, breathing difficulties and pulmonary oedema. Chronic exposure may result in permanent lung damage. Chronic exposure to some solvents may result in anaemia and liver, kidney and central nervous system (CNS) damage.
<b>Skin</b>	Irritant. Contact may result in drying and defatting of the skin, rash and dermatitis. May be absorbed through skin with harmful effects. May cause sensitisation by skin contact.
<b>Ingestion</b>	Harmful. Ingestion may result in nausea, vomiting, abdominal pain, diarrhoea, fatigue, dizziness and unconsciousness. Aspiration or inhalation may cause chemical pneumonitis and pulmonary oedema.
<b>Toxicity data</b>	<p>N-BUTYL ACETATE (123-86-4)</p> <p>LC50 (Inhalation): 2000 ppm/4hours (rat) LCLo (Inhalation): 67 g/m<sup>3</sup>/4hours (guinea pig) LD50 (Ingestion): 3200 mg/kg (rabbit) LDLo (Ingestion): 4700 mg/kg (guinea pig) TCLo (Inhalation): 200 ppm (human)</p> <p>SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC (64742-95-6)</p> <p>LD50 (Ingestion): 8400 mg/kg (Rat) TCLo (Inhalation): 1320 ppm/6H/90D intermittent (Rat)</p> <p>HEXAMETHYLENE DIISOCYANATE (HMDI) (822-06-0)</p> <p>LC50 (Inhalation): 30 mg/kg (mouse) LCLo (Inhalation): 60 mg/m<sup>3</sup>/4 hours (rat) LD50 (Ingestion): 350 mg/kg (mouse) LD50 (Intravenous): 5600 ug/kg (mouse) LD50 (Skin): 570 uL/kg (rabbit)</p> <p>HEXANE 1,6-DIISOCYANATE HOMOPOLYMER (28182-81-2)</p> <p>LC50 (Inhalation): 18,500 mg/m<sup>3</sup>/1 hour (rat)</p>

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

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

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Results of PBT and vPvB assessment

No information provided.

### 12.6 Other adverse effects

SOIL: If aromatic hydrocarbons are released to soil, they will evaporate from near-surface soil & leach to groundwater. WATER: Biodegradation of aromatics occurs both in soil & groundwater but may be slow. Isocyanates will react with water producing carbon dioxide. ATMOSPHERE: Aromatic hydrocarbons will exist largely as vapour. Half life in atmosphere varies, (eg 1-2 days (xylene); 3 hrs-1 day (toluene)).

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**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Waste disposal** Mix components together (small amounts), absorb with sand, vermiculite or similar and dispose of to an approved landfill site. Ensure protective equipment is worn when mixing. Do not seal containers/tins until reaction is complete. Contact the manufacturer/supplier for additional information (if required). Prevent contamination of drains and waterways as environmental damage may result.

**Legislation** Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION**

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



	Land Transport (ADG)	Sea Transport (IMDG/IMO)	Air Transport (IATA/ICAO)
<b>14.1 UN number</b>	1133	1133	1133
<b>14.2 UN proper shipping name</b>	ADHESIVES containing flammable liquid		
<b>14.3 Transport hazard classes</b>			
<b>DG Class</b>	3	3	3
<b>Subsidiary risk(s)</b>	None Allocated	-	-
<b>14.4 Packing group</b>	III	III	III
<b>14.5 Environmental hazards</b>		None Allocated	
<b>14.6 Special precautions for user</b>			
<b>Hazchem Code</b>	•3Y		
<b>EMS</b>		F-E, S-D	

**15. REGULATORY INFORMATION**

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

**Poison schedule** Classified as a Schedule 6 Poison using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** F - Highly flammable  
N - Dangerous for the environment  
Xi - Irritant

**Risk phrases** R10: Flammable.  
R42/43: May cause sensitisation by inhalation and skin contact.  
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases** S24: Avoid contact with skin.  
S37: Wear suitable gloves.  
S51: Use only in well ventilated areas.  
S61: Avoid release to the environment. Refer to special instructions/safety data sheets.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

**15.2 Chemical safety assessment**

No information provided.

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**16. OTHER INFORMATION**

**Additional information**    **WORK PRACTICES - SOLVENTS:** Organic solvents may present both a health and flammability hazard. It is recommended that engineering controls should be adopted to reduce exposure where practicable (for example, if using indoors, ensure explosion proof extraction ventilation is available). Flammable or combustible liquids with explosive limits have the potential for ignition from static discharge. Refer to AS 1020 (The control of undesirable static electricity) and AS 1940 (The storage and handling of flammable and combustible liquids) for control procedures.

Spillage decontaminants for isocyanates: For TDI or HMDI, use a mixture of sawdust (20%), silica sand (or china clay or Fuller's Earth) (40%) and a breakdown solution (40%). The breakdown solution is made up of water (90%), non-ionic surfactant (2%) and concentrated ammonia (8% v/v). For spillage of any other isocyanate a solid absorbent of silica sand or sawdust may be used.

**ISOCYANATES:** Asthma sufferers, respiratory impaired or previously sensitised individuals are advised to avoid all exposure to isocyanates. Please note that products containing isocyanates often require the preparation of safe working procedures before product is used.

**RESPIRATORS:** In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**HEALTH EFFECTS FROM EXPOSURE:**  
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**COLOUR RATING SYSTEM:** RMT has assigned all ChemAlert reports a colour rating of Green, Amber or Red for the sole purpose of providing users with a quick and easy means of determining the hazardous nature of a product. Safe handling recommendations are provided in all ChemAlert reports so as to clearly identify how users can control the hazards and thereby reduce the risk (or likelihood) of adverse effects. As a general guideline, a Green colour rating indicates a low hazard, an Amber colour rating indicates a moderate hazard and a Red colour rating indicates a high hazard.

While all due care has been taken by RMT in the preparation of the Colour Rating System, it is intended as a guide only and RMT does not provide any warranty in relation to the accuracy of the Colour Rating System. As far as is lawfully possible, RMT accepts no liability or responsibility whatsoever for the actions or omissions of any person in reliance on the Colour Rating System.

<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
	GHS	Globally Harmonized System
	GTEPG	Group Text Emergency Procedure Guide
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	PEL	Permissible Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).



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ppm	Parts Per Million
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report Status**

This ChemAlert report has been independently compiled by RMT's scientific department utilising the original Safety Data Sheet ('SDS') for the product provided to RMT by the manufacturer. The information is based on the latest chemical and toxicological research and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. It is an independent collation by RMT of information obtained from the original SDS for this product. Its content has not been authorised or verified by the manufacturer / distributor of the chemical to which it relates.

This ChemAlert report does not constitute the manufacturer's original SDS and is not intended to be a replacement for same. It is provided to subscribers of ChemAlert as a reference tool only, is not all-inclusive and does not represent any guarantee as to the properties of the product. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this ChemAlert report, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this ChemAlert report.

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**End of Report**