

1. Identification of the substance/preparation and of the company/undertaking

Product name Permacron® 3370 MS Hardener fast

Product code 8D66-07218

Intended use of the substance/preparation

Hardener for professional use

Manufacturer, importer, supplier

Producer/Supplier DuPont Australia Ltd ACN 000 716 469
Street/Box 7 Eden Park Drive
Nat.-Code/Postal code/City Macquarie Park NSW 2113

Telephone

Product information (02) 9923 6111
Transportation emergency (02) 9923 6275
Medical emergency 1800 674 415

Manufacturer, importer, supplier

Producer/Supplier DuPont (New Zealand) Ltd.
Street/Box 98 Kerrs Road
Nat.-Code/Postal code/City Wiri, Manukau City
Auckland, Zealand

Telephone

Product information (09) 268 5500
NZ Poisons Information Center 0800 764 766

For further information, please also consult our Internet site:

<http://www.spieshecker.com>

2. Hazards identification

Hazardous Substance. Dangerous Goods.

Human health hazards

Classification : - Harmful - Irritant - Dangerous for the environment
Flammable. Harmful by inhalation. Irritating to respiratory system and skin. May cause sensitization by inhalation and skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Special hazard instructions for humans and environment

Do not breathe gas/fumes/vapour/spray.

Avoid contact with skin.

Wear suitable gloves.

In case of insufficient ventilation, wear suitable respiratory equipment.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Avoid release to the environment. Refer to special instructions/safety data sheets.

3. Composition/information on ingredients

Chemical characterization

Mixture of synthetic resins and solvents

Hazardous components

CAS-No.	Chemical Name	Concentration	Classification
28182-81-2	Hexamethylene diisocyanate, oligomers	35.00 - < 45.00 %	Xi; R43

CAS-No.	Chemical Name	Concentration	Classification
64742-95-6	solvent naphtha (petroleum), light arom.	15.00 - < 20.00 %	R10 Xi; R37 N; R51/53 Xn; R65 R66 R67 Notah Notap
123-86-4	n-butyl acetate	10.00 - < 12.50 %	R10 R66 R67
1330-20-7	xylene	10.00 - < 12.50 %	R10 Xn; R20/21 Xi; R38
95-63-6	1,2,4-trimethylbenzene	7.00 - < 10.00 %	R10 Xn; R20 Xi; R36/37/38 N; R51/53
108-65-6	2-methoxy-1-methylethyl acetate	3.00 - < 5.00 %	R10 Xi; R36
108-67-8	mesitylene	2.00 - < 3.00 %	R10 Xi; R37 N; R51/53
100-41-4	ethylbenzene	2.00 - < 3.00 %	F; R11 Xn; R20
103-65-1	n-propylbenzene	1.00 - < 2.00 %	R10 Xn; R65 Xi; R37 N; R51/53
98-82-8	cumene	0.50 - < 1.00 %	R10 Xn; R65 Xi; R37 N; R51/53

Additional advice

To avoid misinterpretation in any case of risk assessment it is not allowed to accumulate the above mentioned percentages. See full text of R-phrases in chapter 16.

4. First aid measures

General advice

When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.

Inhalation

Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Skin contact

Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Eye contact

Remove contact lenses. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Seek medical advice.

Ingestion

If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting. Keep at rest.

5. Fire-fighting measures

Hazardous combustion products

Fire will produce dense black smoke containing hazardous combustion products (see heading 10). Exposure to decomposition products may be a hazard to health.

Fire and Explosion Hazards

Flammable liquid. Vapours may form explosive mixtures with air. Remove all sources of ignition.

Suitable extinguishing media

Universal aqueous film-forming foam, carbon dioxide (CO₂), dry chemical, water spray.

Extinguishing media which must not be used for safety reasons

high volume water jet

Special Protective Equipment and Fire Fighting Procedures

Wear as appropriate: full protective flameproof clothing. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Additional advice

Cool closed containers exposed to fire with water spray.

Additional information

Hazchem : 3[Y]

6. Accidental release measures

Personal precautions

Keep in a well-ventilated place. Keep away from sources of ignition. Comply with safety directives (see chapters 7 and 8). Do not inhale vapours.

Environmental precautions

Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

Methods for cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations. The contaminated area should be cleaned up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts), concentrated (d : 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts), water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in non-sealed container. Once this stage is reached, close container and dispose according to local regulations (see section 13).

7. Handling and storage

Handling

Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is being used.

Safe handling advice

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Preparation may charge electrostatically: always use grounded leads when transferring from one container to another. Operators should wear antistatic footwear and clothing. No sparking tools should be used. Avoid skin and eye contact. Do not breathe vapours or spray mist. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Comply with the health and safety at work laws. If material is a coating, do not sand, flame cut, braze or weld dry coating without an appropriate respirator or appropriate ventilation, and gloves.

Advice on protection against fire and explosion

Solvent vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Never use pressure to empty container: container is not a pressure vessel. Always keep in containers of same material as the original one.

Storage**Requirements for storage areas and containers**

Observe label precautions. Store between 5 and 25°C in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage

Store separately from oxidizing agents, strongly alkaline and strongly acidic materials, amines, alcohols and water. Precautions should be taken to avoid exposure to atmospheric humidity or water. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting.

Additional information on storage conditions

Precautions should be taken to avoid exposure to atmospheric humidity or water. Humid air and/or water will produce carbon dioxide which will pressurize the container. Open drum carefully as content may be under pressure.

8. Exposure controls / personal protection

Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is being used.

Additional technical information on the plant

Provide adequate ventilation. Air-fed protective respiratory equipment must be worn by spray operator even when good ventilation is provided.

National occupational exposure limits

CAS-No.	Chemical Name	Values	Control Parameters	Basis
28182-81-2	Hexamethylene diisocyanate, oligomers			no exposure standard allocated
64742-95-6	solvent naphtha (petroleum), light arom.			no exposure standard allocated
123-86-4	n-butyl acetate	STEL TWA	950 mg/m3 200 ppm 713 mg/m3 150 ppm	NOHSC:1003(2003) NOHSC:1003(2003) NOHSC:1003(2003) NOHSC:1003(2003)
1330-20-7	xylene	STEL TWA	655 mg/m3 150 ppm 350 mg/m3 80 ppm	NOHSC:1003(2003) NOHSC:1003(2003) NOHSC:1003(2003) NOHSC:1003(2003)
95-63-6	1,2,4-trimethylbenzene	TWA	25 ppm	NOHSC:1003(2003)
108-65-6	2-methoxy-1-methylethyl acetate	STEL TWA	822 mg/m3 150 ppm 274 mg/m3 50 ppm	NOHSC:1003(2003) NOHSC:1003(2003) NOHSC:1003(2003) NOHSC:1003(2003)
108-67-8	mesitylene	TWA	25 ppm	NOHSC:1003(2003)
100-41-4	ethylbenzene	STEL TWA	543 mg/m3 125 ppm 434 mg/m3 100 ppm	NOHSC:1003(2003) NOHSC:1003(2003) NOHSC:1003(2003) NOHSC:1003(2003)
103-65-1	n-propylbenzene			no exposure standard allocated
98-82-8	cumene	STEL TWA	375 mg/m3 75 ppm 125 mg/m3 25 ppm	NOHSC:1003(2003) NOHSC:1003(2003) NOHSC:1003(2003) NOHSC:1003(2003)

Protective equipment

Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection

For spraying: air-fed respirator. For operations other than spraying: in well ventilated areas, air-fed respirators could be replaced by a combination of charcoal filter and particulate filter mask.

Hand protection

Chemical Name	Glove material	Glove thickness	Break through time
solvent naphtha (petroleum), light arom.	Viton [®]	0.7 mm	30 min

Chemical Name	Glove material	Glove thickness	Break through time
n-butyl acetate	Viton [®]	0.7 mm	10 min
	nitrile rubber	0.33 mm	30 min
xylene	nitrile rubber	0.33 mm	30 min
	Viton [®]	0.7 mm	480 min

The protective glove should be checked in each case for their work specific suitability (e.g. mechanical stability, product compatibility, and anti-static properties). When the intended use is for spray application a nitrile glove of the chemical resistance group 3 (e.g. Dermatril[®] glove) is to be used. After contamination, the glove has to be changed. If immersing the hands into the product is not avoidable (e.g. maintenance work) a butyl or fluorocarbon rubber glove should be used. When skin exposure may occur to materials specified in chapter 2 of this SDS, advice should be sought from the glove supplier as to appropriate type to use with this product and the permeation breakthrough times. Cleaning solvents or viscosity adjustment thinners require special hand protection, a fluorocarbon rubber glove should be used. Care should be taken when working with sharp edged articles as these can easily damage the gloves and make them ineffective. The instructions and information provided by the glove supplier on use, storage, maintenance and replacement must be followed. Damaged gloves or those showing signs of wear should be replaced immediately.

Eye protection

Wear protective eyewear for protection against solvent spatter.

Skin protection

Wear suitable protective clothing. Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.

Hygiene measures

Wash skin thoroughly with soap and water or use recognized skin cleanser. Do not use organic solvents!

Environmental exposure controls

Do not let product enter drains. For ecological information refer to chapter 12.

9. Physical and chemical properties

General information (appearance)

Physical state: liquid Colour: clear

Important physical and chemical information

	Value	Method
Flash point	33 °C	DIN 53213/ISO1523
Autoignition temperature	407 – 479 °C	DIN 51794
Boiling point/range	125 – 190 °C	
Lower explosion limit	0.9 %	
Upper explosion limit	12.3 %	
Vapour pressure	4.2 hPa	
Relative density	0.98 g/cm ³	DIN 53217/ISO 2811
Water solubility	moderate	
Viscosity (23 °C)	<20 s	ISO 2431-1993 6 mm
Solvent separation test	< 3%	ADR/RID
Content of volatile components (including water)	60.9%	Basis Vapour pressure >= 0.01 kPa
pH	Not applicable.	
Conductivity	Not applicable.	

10. Stability and reactivity

Stability

Stable

Conditions to avoid

Stable under recommended storage and handling conditions (see section 7).

Materials to avoid

Keep away from oxidising agents and strongly acid or alkaline materials. Amines and alcohols cause exothermic reactions. Preparation reacts slowly with water resulting in evolution of CO₂. Evolution of CO₂ in closed containers causes overpressure

and produces a risk of bursting.

Hazardous decomposition products

When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen as well as hydrogen cyanide, amines, alcohols and water.

11. Toxicological information

General observations

There are no data available on the product itself. See sections 2 and 15 for details.

Practical experience

Based on the properties of the isocyanate components and considering toxicological data on similar products, the following applies: This formulation may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorption, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Components of the product may be absorbed into the body through the skin. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Contains Hexamethylene diisocyanate, oligomers. May produce an allergic reaction.

Toxicity Test Type	Value	Time	Species
Hexamethylene diisocyanate, oligomers			
Oral LD50	1,000 mg/kg		rat
Dermal LD50	5,000 mg/kg		rabbit
Inhalation LC50	137 mg/m ³	4 h	rat
solvent naphtha (petroleum), light arom.			
Oral LD50	< 5 g/kg		rat
Dermal LD50	> 4 ml/kg		rat
Inhalation LD50	> 3,670 mg/kg	8 h	rat
n-butyl acetate			
Oral LD50	9.3 ml/kg		rat
Dermal LD50	10 ml/kg		Guinea Pig
Inhalation LC50	> 6,335 ppm	4 h	rat
xylene			
Oral LD50	4,300 mg/kg		rat
Dermal LD50	12,180 mg/kg		rabbit
Inhalation LC50	5,000 ppm	4 h	rat
1,2,4-trimethylbenzene			
Oral LD50	5,000 mg/kg		rat
Inhalation LC50	18,000 mg/m ³	4 h	rat
2-methoxy-1-methylethyl acetate			
Oral LD50	8.5 g/kg		Female Rat
Dermal LD50	> 5 g/kg		rabbit
Inhalation LC50	> 4,345 ppm	6 h	Male Rat
mesitylene			
Inhalation LC50	24,000 mg/m ³	4 h	rat
ethylbenzene			
Oral LD50	3,500 mg/kg		rat
Dermal LD50	17,800 mg/kg		rabbit
Inhalation LC50	4,000 ppm	4 h	rat

12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses.

Acute toxicity aquatic invertebrates

Chemical Name	Species	Type	Exposure time	Value	Method
solvent naphtha (petroleum), light arom.	Daphnia	EC50	24 h	170 mg/l	

Acute and extended toxicity of fishes

Chemical Name	Species	Type	Exposure time	Value	Method
solvent naphtha (petroleum), light arom.	zebra fish	LC50	96 h	10 mg/l	

Toxicity with aquatic plants

Chemical Name	Species	Type	Exposure time	Value	Method
solvent naphtha (petroleum), light arom.	Algae	EC50	72 h	10 mg/l	

Mobility

No information available.

Persistence and degradability

No information available.

Bioaccumulative potential

No information available.

13. Disposal considerations

Incinerate or otherwise dispose of waste material in accordance with local regulations. The product should not be allowed to enter drains, water courses or the soil. Do not incinerate in closed containers.

14. Transport information

Transport in accordance with the requirements of the Carriage of Dangerous Goods by Road and Rail (Classifications, Packaging and Labeling), ADG for road, IMDG for sea and ICAO/IATA for air transport.

ADG (Land transport)

Proper shipping name: PAINT RELATED MATERIAL

UN-No: 1263
Hazard Class: 3
Subsidiary Hazard Class: Not applicable.
Packing group: III
Hazchem: 3[Y]**IMDG (Sea transport)**

Proper shipping name: PAINT RELATED MATERIAL

UN-No: 1263
Hazard Class: 3
Subsidiary Hazard Class: Not applicable.
Packing group: III
Marine Pollutant: P
EmS: F-E,S-E**ICAO/IATA (Air transport)**

Proper shipping name: PAINT RELATED MATERIAL

UN-No: 1263
Hazard Class: 3
Subsidiary Hazard Class: Not applicable.
Packing group: III

15. Regulatory information

Symbol and indicating of hazard

Xn	Harmful
N	Dangerous for the environment
Contains	Hexamethylene diisocyanate, oligomers 35.00 - < 45.00 %.

R-phrase(s)

R10	Flammable.
R20	Harmful by inhalation.
R37/38	Irritating to respiratory system and skin.
R42/43	May cause sensitization by inhalation and skin contact.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S23	Do not breathe gas/fumes/vapour/spray.
S24	Avoid contact with skin.
S37	Wear suitable gloves.
S38	In case of insufficient ventilation, wear suitable respiratory equipment.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.

Contains isocyanates. See information supplied by the manufacturer.

SUSDP Poison Schedule: No poison schedule number allocated

New Zealand Poison Schedule: Poison schedule 3

16. Other information

Full text of R phrases with no. appearing in section 2

R10	Flammable.
R11	Highly flammable.
R20	Harmful by inhalation.
R20/21	Harmful by inhalation and in contact with skin.
R36	Irritating to eyes.
R36/37/38	Irritating to eyes, respiratory system and skin.
R37	Irritating to respiratory system.
R38	Irritating to skin.
R42/43	May cause sensitization by inhalation and skin contact.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

Sources of key data used to compile the datasheet:

1. National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition (NOHSC:2011(2003))
2. Approved Criteria for Classifying Hazardous Substances (NOHSC:1008(1999))
3. List of Designated Hazardous Substances (NOHSC:10005(1999))
4. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment (NOHSC:1003(1995))
5. Australian Dangerous Goods Code, No. 6 (National Road Transport Commission)
6. Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP)
7. National Code of Practice for the Labelling of Workplace Substances ((NOHSC:2012 (1994))

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Report version

Version	Changes
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1.0



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