

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

Product name	HS Hardener 5 - 15
Product code	02040457
Intended use of the substance/preparation	
Hardener for professional use	
Supplier	Du Pont (New Zealand) Limited
Street address	Central Park Corporate Centre Level 2, Building 5 666 Great South Road Greenlane, Auckland 1051
Telephone	(64)-9526 2501
Telefax	(64)-9526 2505
Emergency telephone number	NZ Poisons Information Centre Ph: 0800 764 766 24-hour Emergency Number: (64)-9526 2501
Date of preparation	2011-06-01

2. Hazards identification

Classified as a Dangerous Good according to NZS 5433
 Classified as hazardous according to criteria in the HS (Minimum Degrees of Hazard) Regulations 2001

HSNO Classification

Skin corrosion/irritation	Category 6.3A
Serious eye damage/eye irritation	Category 6.4A
Skin sensitization	Category 6.5B
Toxicity for reproduction	Category 6.8B
Target Organ Systemic Toxicant - Single exposure	Category 6.9B
Target Organ Systemic Toxicant - Repeated exposure	Category 6.9B
Flammable liquids	Category 3.1B
Acute aquatic toxicity	Category 9.1B

Endpoints which are "not classified", "cannot classified" and "not applicable" are not shown

GHS-Labeling



Hazard symbols

Signal word **Danger**

Hazard statements
 Causes skin irritation.
 Causes serious eye irritation.
 Suspected of damaging fertility or the unborn child.
 May cause damage to organs through prolonged or repeated exposure.
 Causes damage to organs.
 May cause an allergic skin reaction.
 Toxic to aquatic life.
 Highly flammable liquid and vapour.

Precautionary statements
 Contaminated work clothing should not be allowed out of the workplace.
 Keep container tightly closed.
 Avoid release to the environment.
 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
 Do not eat, drink or smoke when using this product.
 Ground/bond container and receiving equipment.
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 Obtain special instructions before use.
 Take precautionary measures against static discharge.

Use explosion-proof electrical/ventilating/lighting equipment.
 Use only non-sparking tools.
 Wash hands after handling.
 Wear protective gloves/ eye protection/ face protection.
 IF exposed: Call a POISON CENTER or doctor/ physician.
 If eye irritation persists: Get medical advice/ attention.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
 If skin irritation or rash occurs: Get medical advice/ attention.
 Specific treatment (see supplemental first aid instructions on this label).
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local regulation.

Other hazards which do not result in classification

Contains isocyanates. See information supplied by the manufacturer. May produce an allergic reaction.

3. Composition/information on ingredients

Pure substance/mixture

Mixture

CAS-No.	Chemical Name	Concentration	GHS	Haz-ardous
28182-81-2	Hexamethylene diisocyanate, oligomers	40 - 50%		
108-88-3	toluene	40 - 50%	✓	
64742-95-6	solvent naphtha (petroleum), light arom. (<0,1% benzene)	1 - 3%	✓	
123-86-4	n-butyl acetate	1 - 3%	✓	
108-65-6	2-methoxy-1-methylethyl acetate	1 - 3%	✓	
1330-20-7	xylene	1 - 3%	✓	
95-63-6	1,2,4-trimethylbenzene	0.3 - 1.0%	✓	
100-41-4	ethylbenzene	0.3 - 1.0%	✓	
108-67-8	mesitylene	0.1 - 0.3%	✓	

Non-regulated ingredients 1 - 5%

4. First aid measures

Eye contact

Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

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.

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.

Ingestion

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

Most Important Symptoms/effects, acute and delayed**Inhalation**

May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion

May result in gastrointestinal distress.

Skin or eye contact

May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis. Skin contact may cause skin sensitization. If this product is mixed with an isocyanate, skin contact may cause sensitization.

Notes to physician

No data available on the product. See section 3 and 11 for hazardous ingredients found in the product.

5. Fire-fighting measures

Suitable extinguishing media

Universal aqueous film-forming foam, Carbon dioxide (CO₂), Dry chemical, Water spray.

Extinguishing media which shall not be used for safety reasons

High volume water jet

Specific hazards

Flammable liquid. Vapours may form explosive mixtures with air. Remove all sources of ignition. Do not allow run-off from fire fighting to enter drains or water courses. Never use pressure to empty container: container is not a pressure vessel. Always keep in containers of same material as the original one.

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.

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 mixture 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.

Storage**Suitable storage conditions**

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.

Suitable container and packaging materials for safe storage

Always keep in containers made of the same material as the supply container.

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 mixture is being used.

National occupational exposure limits**Workplace Exposure Standards (WESs) 2002**

Chemical Name		
Hexamethylene diisocyanate, oligomers	TWA	0.02 mg/m ³
	STEL	0.07 mg/m ³
toluene	TWA	50 ppm
	TWA	188 mg/m ³
n-butyl acetate	TWA	150 ppm
	TWA	713 mg/m ³
	STEL	200 ppm
xylene	STEL	950 mg/m ³
	TWA	50 ppm
	TWA	217 mg/m ³
1,2,4-trimethylbenzene	TWA	25 ppm
	TWA	123 mg/m ³
ethylbenzene	TWA	100 ppm
	TWA	434 mg/m ³
	STEL	125 ppm
	STEL	543 mg/m ³
mesitylene	TWA	25 ppm
	TWA	25 ppm
	TWA	123 mg/m ³
	TWA	123 mg/m ³

Engineering measures

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

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.

Eye protection

Wear protective eyewear for protection against solvent spatter.

Hand protection

The breakthrough time of gloves is unknown for the product itself. The glove material given is recommended on basis of the substances in the preparation.

Chemical Name	Glove material	Glove thickness	Break through time
solvent naphtha (petroleum), light arom. (<0,1% benzene)	Viton (R) ®	0.7 mm	30 min
n-butyl acetate	Viton (R) ®	0.7 mm	10 min
	Nitrile rubber	0.33 mm	30 min
xylene	Nitrile rubber	0.33 mm	30 min
	Viton (R) ®	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 section 3 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. 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.

Skin and body 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!

9. Physical and chemical properties

Appearance

Form : liquid Colour: clear Odor Threshold : no data available

pH	not applicable
Freezing point	Not applicable.
Boiling point	108 °C
Flash point	6 °C DIN 53213/ISO 1523
Evaporation rate	Slower than Ether
Flammability	
Upper explosion limit	7 %
Lower explosion limit	1.3 %
Vapour pressure	12.4 hPa
Solubility(ies)	moderate
Vapour density	no data available
Density	0.99 g/cm ³ DIN 53217/ISO 2811



Partition coefficient: n-octanol/water	no data available	
Ignition temperature	272 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	Not applicable.	ISO 2431-1993

10. Stability and reactivity

Stability

Stable

Hazardous polymerisation

Will not occur.

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. Mixture 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

Information on likely routes of exposure

Inhalation

May cause nose and throat irritation. May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Exposure to isocyanates may cause respiratory sensitization. This effect may be permanent. Symptoms include an asthma-like reaction with shortness of breath, wheezing, cough or permanent lung sensitization. This effect may be delayed for several hours after exposure. Repeated overexposure to isocyanates may cause a decrease in lung function, which may be permanent. Individuals with lung or breathing problems or prior reactions to isocyanates must not be exposed to vapors or spray mist of this product.

Ingestion

May result in gastrointestinal distress.

Skin or eye contact

May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Acute oral toxicity

not hazardous

Acute inhalation toxicity

not hazardous

% of unknown composition 1.5 %

Skin corrosion/irritation

toluene	Category 2
xylene	Category 2
1,2,4-trimethylbenzene	Category 3
ethylbenzene	Category 3
mesitylene	Category 3

**Serious eye damage/eye irritation**

toluene	Category 2B
2-methoxy-1-methylethyl acetate	Category 2B
xylene	Category 2B
1,2,4-trimethylbenzene	Category 2A
ethylbenzene	Category 2B
mesitylene	Category 2A

Skin sensitization

No data available.

Toxicity for reproduction

toluene Category 2

Target Organ Systemic Toxicant - Single exposure**• Skin Absorption****Narcotic effects** toluene**• Inhalation****Respiratory system** 1,2,4-trimethylbenzene**Central nervous system** 1,2,4-trimethylbenzene**Target Organ Systemic Toxicant - Repeated exposure****• Skin Absorption****Central nervous system** 1,2,4-trimethylbenzene**Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)**

No information available.

Symptoms related to the physical, chemical and toxicological characteristics

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. 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. 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. Components of the product may be absorbed into the body through the skin.

12. Ecological information

Product contains environmentally hazardous substances and product is classified per GHS.

Ecotoxicity effects

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

Acute aquatic toxicity

toluene	Category 2
solvent naphtha (petroleum), light arom. (<0,1% benzene)	Category 2
n-butyl acetate	Category 3
xylene	Category 3
1,2,4-trimethylbenzene	Category 2
ethylbenzene	Category 2
mesitylene	Category 2



% of unknown composition 1.5%

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility in soil

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Dispose of in accordance with local regulations.

Disposal considerations

A disposal process that converts the waste into energy is recommended. If this is not possible the hazardous waste must be disposed of by incineration.

14. Transport information

NZS5433

Proper shipping name: PAINT RELATED MATERIAL

UN number: 1263
Hazard Class: 3
Packing group: II
Hazchem Code: 3YE

IMDG (Sea transport)

Proper shipping name: PAINT RELATED MATERIAL

UN number: 1263
Hazard Class: 3
Subsidiary Hazard Class: Not applicable.
Packing group: II
Marine Pollutant: no
EmS: F-E,S-E

ICAO/IATA (Air transport)

Proper shipping name: PAINT RELATED MATERIAL

UN number: 1263
Hazard Class: 3
Subsidiary Hazard Class: Not applicable.
Packing group: II

Matters needing attention for transportation

Confirm that there is no breakage, corrosion, or leakage from the container before shipping. Be sure to prevent damage to cargo by loading so as to avoid falling, dropping, or collapse. Ship in appropriate containers with denotation of the content in accordance with the relevant statutes and rules.

15. Regulatory information

**National regulatory information**

HSNO Approval Code	HSR002662
HSNO Control A	This product must be under the control of an approved handler during use.
HSNO Classification	
Skin corrosion/irritation	Category 6.3A
Serious eye damage/eye irritation	Category 6.4A
Skin sensitization	Category 6.5B
Toxicity for reproduction	Category 6.8B
Target Organ Systemic Toxicant - Single exposure	Category 6.9B
Target Organ Systemic Toxicant - Repeated exposure	Category 6.9B
Flammable liquids	Category 3.1B
Acute aquatic toxicity	Category 9.1B

16. Other information

Sources of key data used to compile the Safety Data Sheet
Department

Du Pont (New Zealand) Limited
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Data Review Department
Issuing date

Regulatory Affairs
2011-06-01

Revision Note

Version	Changes
2.0	2, 3, 4, 5, 8, 9, 11, 12, 13, 14, 15, 16

Revision Date: 2011-06-01

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 above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.