

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

Product name	4501 Permasolid EP Hardener
Product code	37145010
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

Acute oral toxicity	Category 6.1D
Acute inhalation toxicity	Category 6.1E
Skin corrosion/irritation	Category 8.2A
Serious eye damage/eye irritation	Category 8.3A
Respiratory sensitization	Category 6.5A
Skin sensitization	Category 6.5B
Toxicity for reproduction	Category 6.8A
Target Organ Systemic Toxicant - Single exposure	Category 6.9A
Flammable liquids	Category 3.1C
Acute aquatic toxicity	Category 9.1C
Ecotoxic to terrestrial invertebrates	Category 9.4C

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

GHS-Labeling



Hazard symbols

Signal word **Danger**

Hazard statements
 Harmful if swallowed.
 May be harmful if inhaled.
 Causes severe skin burns and eye damage.
 Causes serious eye damage.
 May damage fertility or the unborn child.
 Causes damage to organs.
 May cause an allergic skin reaction.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Harmful to aquatic life.
 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.
 In case of inadequate ventilation wear respiratory protection.
 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/protective clothing/eye protection/face protection.
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.
 IF exposed: Call a POISON CENTER or doctor/ physician.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF INHALED: Call a POISON CENTER or doctor/ physician if you feel unwell.
 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
 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.
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
 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: ethylenediamine; 2,2'-iminodiethylamine. May produce an allergic reaction.

3. Composition/information on ingredients

Pure substance/mixture

Mixture

CAS-No.	Chemical Name	Concentration	GHS ardous	Haz-
71-36-3	n-butanol	30 - 40%	✓	
1330-20-7	xylene	30 - 40%	✓	
100-41-4	ethylbenzene	5 - 10%	✓	
35141-30-1	N-(2-aminoethyl)-N'-[3-(trimethoxysilyl)propyl]ethylenediamine	5 - 10%	✓	
107-15-3	ethylenediamine	0.3 - 1.0%		
111-40-0	2,2'-iminodiethylamine	0.1 - 0.3%	✓	
67-56-1	methanol	0.1 - 0.3%	✓	
108-88-3	toluene	0.1 - 0.3%	✓	

Non-regulated ingredients 10 - 20%

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.

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.

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. Clean preferably with a detergent; avoid use of solvents.

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		
n-butanol	CEIL	50 ppm
	CEIL	150 mg/m3
xylene	TWA	50 ppm
	TWA	217 mg/m3
ethylbenzene	TWA	100 ppm
	TWA	434 mg/m3
	STEL	125 ppm
	STEL	543 mg/m3
ethylenediamine	TWA	10 ppm
	TWA	25 mg/m3
2,2'-iminodiethylamine	TWA	1 ppm
	TWA	4.2 mg/m3
methanol	TWA	200 ppm
	TWA	262 mg/m3
	STEL	250 ppm
	STEL	328 mg/m3
toluene	TWA	50 ppm
	TWA	188 mg/m3

Engineering measures

Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Protective equipment

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

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

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
n-butanol	Viton (R) [®]	0.7 mm	480 min
	Nitrile rubber	0.33 mm	480 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	65 °C	
Flash point	23 °C	DIN 53213/ISO 1523
Evaporation rate	Slower than Ether	
Flammability		
Upper explosion limit	11.2 %	
Lower explosion limit	1 %	
Vapour pressure	6.3 hPa	
Solubility(ies)	moderate	
Vapour density	no data available	
Density	0.88 g/cm ³	DIN 53217/ISO 2811
Partition coefficient: n-octanol/water	no data available	
Ignition temperature	340 °C	DIN 51794
Decomposition temperature		
Viscosity (23 °C)	<20 s	ISO 2431-1993 6 mm

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, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Hazardous decomposition products

When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

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.

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

n-butanol	Category 4
xylene	Category 5
ethylbenzene	Category 5
2,2'-iminodiethylamine	Category 4
methanol	Category 3

Acute dermal toxicity

not hazardous

Acute inhalation toxicity

n-butanol	Category 5
ethylbenzene	Category 4
2,2'-iminodiethylamine	Category 2
methanol	Category 3
toluene	Category 5

% of unknown composition 7.1 %

Skin corrosion/irritation

n-butanol	Category 2
xylene	Category 2

ethylbenzene	Category 3
N-(2-aminoethyl)-N'-[3-(trimethoxysilyl)propyl]ethylenediamine	Category 1A
2,2'-iminodiethylamine	Category 1B
methanol	Category 3
toluene	Category 2

Serious eye damage/eye irritation

n-butanol	Category 1
xylene	Category 2B
ethylbenzene	Category 2B
N-(2-aminoethyl)-N'-[3-(trimethoxysilyl)propyl]ethylenediamine	Category 1
2,2'-iminodiethylamine	Category 1
toluene	Category 2B

Respiratory sensitization

2,2'-iminodiethylamine Category 1

Skin sensitization

N-(2-aminoethyl)-N'-[3-(trimethoxysilyl)propyl]ethylenediamine	Category 1
2,2'-iminodiethylamine	Category 1

Toxicity for reproduction

2,2'-iminodiethylamine	Category 1B
methanol	Category 2
toluene	Category 2

Target Organ Systemic Toxicant - Single exposure

• **Skin Absorption**

- Narcotic effects** toluene
- Eyes** methanol
- Kidney** methanol
- Liver** methanol

• **Inhalation**

- Central nervous system** methanol

Numerical measures of toxicity (acute toxicity estimation (ATE),etc.)

No information available.

Symptoms related to the physical, chemical and toxicological characteristics

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 resorbtion, 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.

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

xylene	Category 3
ethylbenzene	Category 2
2,2'-iminodiethylamine	Category 3
toluene	Category 2

Ecotoxic to terrestrial invertebrates

xylene	Category 9.4C
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% of unknown composition 7.1%

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:	III
Hazchem Code:	3Y

IMDG (Sea transport)

Proper shipping name: PAINT RELATED MATERIAL

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

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	To be determined
HSNO Control A	This product must be under the control of an approved handler during use.
HSNO Classification	
Acute oral toxicity	Category 6.1D
Acute inhalation toxicity	Category 6.1E
Skin corrosion/irritation	Category 8.2A
Serious eye damage/eye irritation	Category 8.3A
Respiratory sensitization	Category 6.5A
Skin sensitization	Category 6.5B
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Target Organ Systemic Toxicant - Single exposure	Category 6.9A
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Acute aquatic toxicity	Category 9.1C
Ecotoxic to terrestrial invertebrates	Category 9.4C

16. Other information

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

Du Pont (New Zealand) Limited
 Central Park Corporate Centre
 Level 2, Building 5
 666 Great South Road
 Greenlane, Auckland 1051

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

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