



S2033 SLOW HARDENER

Safety Data Sheet

according to the Model Work Health and Safety Regulations

DRIVING SURFACE PERFECTION

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SECTION 1: Identification : Product identifier and chemical identity

1.1. Product identifier

Product form : Mixture
Trade name : S2033 SLOW HARDENER
Product code : S2033/25

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Hardener

1.4. Supplier's details

Supplier

U-POL AUSTRALIA PTY LIMITED
Unit A, 16 - 20 Cassola Place
Penrith, NSW 2750 - Australia
T 02 4731 2655 - F 02 4731 2611
info@u-pol.co.nz - www.u-pol.com.au

Supplier

U-POL NEW ZEALAND LIMITED
c/o Lindsay & Associates
Unit H, 12 Amera Place, East Tamaki
Manukau City 2013 - New Zealand
T + 612 4731 2655 - F + 612 4731 2611
technicalsupport@u-pol.com - www.u-pol.com

1.5. Emergency phone number

Emergency number : Australia (CHEMTREC): + (61) - 290372994 ; New Zealand (National Poisons Centre): 0800 764 766

SECTION 2: Hazards identification

2.1. Classification of the hazardous chemical

Classification according to the model Work Health and Safety Regulations (WHS Regulations)

Flammable liquids, Category 3 H226
Skin sensitisation, Category 1 H317
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation H335
Specific target organ toxicity — Single exposure, Category 3, Narcosis H336
Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411

2.2. Label elements

Hazard pictograms (GHS AU) :



Signal word (GHS AU) : Warning

Contains : hexamethylene diisocyanate oligomers (23-43 %); solvent naphtha (petroleum), light aromatic (< 43 %); n-butyl acetate (5-23 %); 2-methoxypropyl acetate (< 5 %); hexamethylene-diisocyanate (< 5 %)

Hazard statements (GHS AU) : H226 - Flammable liquid and vapour.
H317 - May cause an allergic skin reaction.
H335 - May cause respiratory irritation.
H336 - May cause drowsiness or dizziness.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (GHS AU) : P210 - Keep away from heat, hot surfaces, open flames, sparks. No smoking.
P261 - Avoid breathing fume, spray, vapours.
P273 - Avoid release to the environment.
P280 - Wear face protection, protective clothing, protective gloves.
P302+P352 - IF ON SKIN: Wash with plenty of water
P312 - Call a POISON CENTER/doctor if you feel unwell.

Additional hazard statements (GHS AU) : AUH066 - Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

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Name	CAS-No.	%	Classification according to the model Work Health and Safety Regulations (WHS Regulations)
hexamethylene diisocyanate oligomers ()	28182-81-2	23-43	Acute Tox. 4 (Inhalation), H332 Skin Sens. 1, H317 STOT SE 3, H335
solvent naphtha (petroleum), light aromatic ()	64742-95-6	< 43	Flam. Liq. 3, H226 Acute Tox. 5 (Oral), H303 STOT SE 3, H336 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
n-butyl acetate ()	123-86-4	5-23	Flam. Liq. 3, H226 STOT SE 3, H336
2-methoxypropyl acetate ()	70657-70-4	< 5	Flam. Liq. 3, H226 Repr. 1B, H360 STOT SE 3, H335
hexamethylene-di-isocyanate ()	822-06-0	< 5	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335
Other substances (not contributing to the classification of this product)		>= 21.28	

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Call a poison center or a doctor if you feel unwell.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
- First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse eyes with water as a precaution.
- First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Symptoms caused by exposure

- Symptoms/effects : May cause drowsiness or dizziness.
- Symptoms/effects after inhalation : May cause respiratory irritation.
- Symptoms/effects after skin contact : May cause an allergic skin reaction.

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

- Other medical advice or treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Flammable liquid and vapour.

5.3. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
- Hazchemcode : 3YE

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Safety glasses. Protective clothing. Gloves.
- Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing fume, spray, vapours. Avoid contact with skin and eyes.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product. Collect spillage.
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

SECTION 7: Handling and storage, including how the chemical may be safely used

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing fume, spray, vapours. Avoid contact with skin and eyes.
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.
Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Storage temperature : < 25 °C
Storage area : Store in a well-ventilated place.
Special rules on packaging : Keep only in original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters - exposure standards

n-butyl acetate (123-86-4)		
Australia	Local name	n-Butyl acetate
Australia	TWA (mg/m ³)	713 mg/m ³
Australia	TWA (ppm)	150 ppm
Australia	STEL (mg/m ³)	950 mg/m ³
Australia	STEL (ppm)	200 ppm
New Zealand	Local name	n-Butyl acetate
New Zealand	TWA (mg/m ³)	713 mg/m ³
New Zealand	TWA (ppm)	150 ppm
New Zealand	STEL (mg/m ³)	950 mg/m ³
New Zealand	STEL (ppm)	200 ppm
New Zealand	Regulatory reference	Workplace Exposure Standards and Biological Exposure Indices, 9th Edition

hexamethylene-di-isocyanate (822-06-0)		
Australia	Local name	Hexamethylene diisocyanate
Australia	TWA (mg/m ³)	0.02 mg/m ³
Australia	STEL (mg/m ³)	0.07 mg/m ³
Australia	Remark (AU)	Sen - Respiratory and/or Skin Sensitiser.
New Zealand	Local name	Hexamethylene diisocyanate (Isocyanates)
New Zealand	TWA (mg/m ³)	0.02 mg/m ³
New Zealand	STEL (mg/m ³)	0.07 mg/m ³
New Zealand	Regulatory reference	Workplace Exposure Standards and Biological Exposure Indices, 9th Edition

Exposure limit values for the other components

8.2. Monitoring

No additional information available

8.3. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

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8.4. Personal protective equipment

Personal protective equipment	: Gas mask. Gloves. Protective clothing. Safety glasses.
Materials for protective clothing	: Impermeable clothing
Hand protection	: Protective gloves
Eye protection	: Safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: Air-fed respiratory protective equipment should be worn when this product is sprayed

Personal protective equipment symbol(s)



Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point / Freezing point	: Melting point : Not applicable
Boiling point	: No data available
Flash point	: 42 °C
Auto-ignition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative density	: No data available
Density	: Density : ≈ 0.99 (0.98 - 1) g/cm ³
Solubility	: insoluble in water. soluble in most organic solvents.
Log Pow	: No data available
Viscosity, dynamic	: \approx
Explosive properties	: No data available
Explosive limits	: No data available
Minimum ignition energy	: No data available
VOC content - Actual	: 625 g/l
VOC content	: 625 g/l
VOC content - Regulatory	: 625 g/l

SECTION 10: Stability and reactivity

Reactivity	: Flammable liquid and vapour. Flammable liquid and vapour.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified

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Acute toxicity (inhalation) : Not classified

n-butyl acetate (123-86-4)	
LD50 oral rat	10760 - 12789 mg/kg bodyweight (Equivalent or similar to OECD 423, Rat, Male/female, Experimental value, Oral)
LD50 dermal rabbit	14112 mg/kg bodyweight (Equivalent or similar to OECD 402, Rabbit, Male/female, Experimental value, Dermal)
LC50 inhalation rat (ppm)	390 ppm/4h
LC50 inhalation rat (Vapours - mg/l/4h)	> 21 mg/l/4h (4 h, OECD Test Guideline 403, rat, vapours)
solvent naphtha (petroleum), light aromatic (64742-95-6)	
LD50 oral rat	3592 mg/kg (OECD Test Guideline 401, rat)
LD50 dermal rabbit	> 3160 mg/kg (OECD Test Guideline 402)
LC50 inhalation rat (Vapours - mg/l/4h)	> 6.193 mg/l/4h (4 h, OECD Test Guideline 403, vapours)
hexamethylene-di-isocyanate (822-06-0)	
LD50 oral rat	746 mg/kg (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral)
LD50 dermal rabbit	599 mg/kg (Rabbit, Dermal)
hexamethylene diisocyanate oligomers (28182-81-2)	
LD50 oral rat	> 2500 mg/kg (OECD Test Guideline 423, rat, female)
LD50 dermal rat	> 2000 mg/kg (OECD Test Guideline 402, rat, male/female)
LC50 inhalation rat (Dust/Mist - mg/l/4h)	0.39 mg/l/4h (OECD Test Guideline 403, rat, female, inhalation, dust/mist)

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified
STOT-single exposure : May cause respiratory irritation. May cause drowsiness or dizziness.
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

According to the National Code of Practice for the Preparation of Material Safety Data Sheets, Environmental classification information is not mandatory. Information relevant for GHS classification is available on request

12.1. Ecotoxicity

Ecology - general : Toxic to aquatic life with long lasting effects.
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

n-butyl acetate (123-86-4)	
LC50 fish 1	18 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)
LC50 fish 2	62 mg/l (Leuciscus idus, static system)
EC50 Daphnia 1	44 mg/l (48 h, Daphnia sp., Static system, Fresh water, Experimental value)
NOEC chronic crustacea	23 mg/l
BCF fish 1	15.3 (Calculated value)
Log Pow	2.3 (Test data, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)
Log Koc	1.268 - 1.844 (log Koc, SRC PCKOCWIN v2.0, QSAR)
solvent naphtha (petroleum), light aromatic (64742-95-6)	
Log Pow	2.1 - 6
hexamethylene-di-isocyanate (822-06-0)	
Log Pow	1.08 (QSAR)

12.2. Persistence and degradability

n-butyl acetate (123-86-4)	
Persistence and degradability	Readily biodegradable in water.
ThOD	2.21 g O ₂ /g substance

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n-butyl acetate (123-86-4)	
BOD (% of ThOD)	0.46
2-methoxypropyl acetate (70657-70-4)	
Persistence and degradability	Biodegradability in water: no data available.
solvent naphtha (petroleum), light aromatic (64742-95-6)	
Persistence and degradability	May cause long-term adverse effects in the environment.
hexamethylene-di-isocyanate (822-06-0)	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

n-butyl acetate (123-86-4)	
BCF fish 1	See section 12.1 on ecotoxicology
Log Pow	See section 12.1 on ecotoxicology
Log Koc	See section 12.1 on ecotoxicology
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
2-methoxypropyl acetate (70657-70-4)	
Bioaccumulative potential	No bioaccumulation data available.
solvent naphtha (petroleum), light aromatic (64742-95-6)	
Log Pow	See section 12.1 on ecotoxicology
Bioaccumulative potential	Not established.
hexamethylene-di-isocyanate (822-06-0)	
Log Pow	See section 12.1 on ecotoxicology
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

n-butyl acetate (123-86-4)	
Surface tension	0.0163 N/m (20 °C)
Log Pow	See section 12.1 on ecotoxicology
Log Koc	See section 12.1 on ecotoxicology
Ecology - soil	Low potential for adsorption in soil.
solvent naphtha (petroleum), light aromatic (64742-95-6)	
Log Pow	See section 12.1 on ecotoxicology
hexamethylene-di-isocyanate (822-06-0)	
Log Pow	See section 12.1 on ecotoxicology
Ecology - soil	Low potential for adsorption in soil.

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

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Fluorinated greenhouse gases	False
n-butyl acetate (123-86-4)	
Fluorinated greenhouse gases	False
2-methoxypropyl acetate (70657-70-4)	
Fluorinated greenhouse gases	False
solvent naphtha (petroleum), light aromatic (64742-95-6)	
Fluorinated greenhouse gases	False
hexamethylene-di-isocyanate (822-06-0)	
Fluorinated greenhouse gases	False
hexamethylene diisocyanate oligomers (28182-81-2)	
Fluorinated greenhouse gases	False

SECTION 13: Disposal considerations

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information	: Flammable vapours may accumulate in the container.

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SECTION 14: Transport information

14.1. UN number

UN-No. (ADG) : 1263
UN-No. (IMDG) : 1263
UN-No. (IATA) : 1263

14.2. Proper Shipping Name - Addition

Proper Shipping Name (ADG) : PAINT
Proper Shipping Name (IMDG) : PAINT
Proper Shipping Name (IATA) : Paint

14.3. Transport hazard class(es)

ADG

Transport hazard class(es) (ADG) : 3
Danger labels (ADG) : 3



IMDG

Transport hazard class(es) (IMDG) : 3
Danger labels (IMDG) : 3



IATA

Transport hazard class(es) (IATA) : 3
Hazard labels (IATA) : 3



14.4. Packing group

Packing group (ADG) : III
Packing group (IMDG) : II
Packing group (IATA) : II

14.5. Environmental hazards

Marine pollutant : Yes
Dangerous for the environment : Yes

14.6. Special precautions for user

Specific storage requirement : No data available
Shock sensitivity : No data available

14.7. Additional information

Other information : No supplementary information available

Transport by road and rail

UN-No. (ADG) : 1263
Special provision (ADG) : 163, 223
Limited quantities (ADG) : 5l
Packing instructions (ADG) : P001, IBC03, LP01

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Special packing provisions (ADG) : PP1
Portable tank and bulk container instructions (ADG) : T2
Portable tank and bulk container special provisions (ADG) : TP1

Transport by sea

UN-No. (IMDG) : 1263
Special provisions (IMDG) : 163, 367
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
Special packing provisions (IMDG) : PP1
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP1, TP8, TP28
EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage) : S-E - SPILLAGE SCHEDULE Echo - FLAMMABLE LIQUIDS, FLOATING ON WATER
Stowage category (IMDG) : B
Properties and observations (IMDG) : Miscibility with water depends upon the composition.

Air transport

UN-No. (IATA) : 1263
PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y341
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 353
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 364
CAO max net quantity (IATA) : 60L
Special provisions (IATA) : A3, A72, A192
ERG code (IATA) : 3L

14.8. Hazchem or Emergency Action Code

Hazchemcode : 3YE

SECTION 15: Regulatory information

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

No additional information available

Hazardous Substances and New Organisms Act

HSNO Approval Number : HSR002662
Group standard : Surface coatings and colourants

15.2. International agreements

No additional information available

SECTION 16: Any other relevant information

Revision date : 03/05/2019

Classification:

Flam. Liq. 3	H226
Skin Sens. 1	H317
STOT SE 3	H335
STOT SE 3	H336
Aquatic Chronic 2	H411

Full text of H-statements:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4

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Acute Tox. 5 (Oral)	Acute toxicity (oral), Category 5
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 1B	Reproductive toxicity, Category 1B
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H303	May be harmful if swallowed
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H360	May damage fertility or the unborn child.
H411	Toxic to aquatic life with long lasting effects.

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For professional use only.

The information contained within this Safety Data Sheet (SDS) is believed to be correct as of the date issued however it is subject to change from time to time. It does not purport to be all inclusive or exhaustive and shall only be used as a guide. U-POL makes no warranties, expressed or implied, including but not limited to, any implied warranty of fitness for a given purpose or usage. It is the Buyers responsibility to ensure the suitability of the products for their own use and to check the information is up to date. U-POL cannot be held responsible for the suitability of use for any of its products, considering the wide range of factors such as application, substrates and handling methods. Since these conditions of use are outside of our control, the company shall not be held liable for any damage resulting from handling or from contact with the product detailed. Moreover, addition of reducers, hardeners or other additives over and above U-POL's recommendations for use, may substantially alter the composition and hazards of the product. U-POL data sheets are available via the U-POL website at WWW.U-POL.COM.