



STANDARD HARDENER 2.1 VOC (S2039-US)

Safety Data Sheet S2039-US

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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DRIVING SURFACE PERFECTION

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : STANDARD HARDENER 2.1 VOC (S2039-US)
Product group : 2K Hardener
Other means of identification : UP2391, UP2392, UP2395, UP4874

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

Supplier

U-POL US Inc
108 Commerce Way
Stockertown PA 18083 - USA
T 1-800-340-7824 - F 1-800-787-5150
technical.department@u-pol.com - www.u-pol.com

1.4. Emergency telephone number

Emergency number : CHEMTREC - 1-800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 2 H225
Eye Irrit. 2 H319
Skin Sens. 1 H317
STOT SE 3 H335
STOT SE 3 H336
Aquatic Chronic 2 H411

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H225 - Highly flammable liquid and vapour
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US)

: P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking.
P261 - Avoid breathing fume, spray, vapors.
P264 - Wash hands thoroughly after handling.
P280 - Wear face protection, protective clothing, protective gloves.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

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2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Hexamethylene Diisocyanate Oligomers	(CAS-No.) 28182-81-2	< 43	Acute Tox. 4 (Inhalation), H332 Skin Sens. 1, H317 STOT SE 3, H335
methyl acetate	(CAS-No.) 79-20-9	23 - 43	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
4-CHLORO BENZOTRIFLUORIDE	(CAS-No.) 98-56-6	23 - 43	Flam. Liq. 3, H226 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Solvent naphtha (petroleum), light aromatic		< 5	Flam. Liq. 3, H226 STOT SE 3, H336 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Call a poison center/doctor/physician if you feel unwell.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
- First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

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

- 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.
- Symptoms/effects after eye contact : Eye irritation.

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

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 : Highly flammable liquid and vapour.
- Reactivity : Highly flammable liquid and vapour.

5.3. Advice for firefighters

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

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 vapors, fume, spray. Avoid contact with skin and eyes.

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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".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain leaking substance. Collect spillage.
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

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 vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing vapors, fume, spray. 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 : Keep container in a well-ventilated place.
Special rules on packaging : Keep only in original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

STANDARD HARDENER 2.1 VOC (S2039-US)		
ACGIH	Not applicable	
OSHA	Not applicable	
methyl acetate (79-20-9)		
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	ACGIH STEL (ppm)	250 ppm
ACGIH	Remark (ACGIH)	eye & URT irr
OSHA	OSHA PEL (TWA) (mg/m³)	610 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
4-CHLORO BENZOTRIFLUORIDE (98-56-6)		
ACGIH	Not applicable	
OSHA	Not applicable	
Solvent naphtha (petroleum), light aromatic		
ACGIH	Not applicable	
OSHA	Not applicable	
Hexamethylene Diisocyanate Oligomers (28182-81-2)		
ACGIH	Not applicable	

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Hexamethylene Diisocyanate Oligomers (28182-81-2)

OSHA

Not applicable

8.2. Exposure controls

Appropriate engineering controls

: Ensure good ventilation of the work station.

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.

Environmental exposure controls

: Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

: Liquid

Appearance

: Liquid.

Color

: Colorless

Odor

: aromatic

Odor threshold

: No data available

pH

: No data available

Relative evaporation rate (butyl acetate=1)

: No data available

Melting point

: Not applicable

Freezing point

: No data available

Boiling point

: > 35 °C

Flash point

: < 0 °C

Auto-ignition temperature

: No data available

Decomposition temperature

: No data available

Flammability (solid, gas)

: No data available

Vapor pressure

: No data available

Relative vapor density at 20 °C

: No data available

Relative density

: No data available

Specific gravity / density

: 1.1 - 1.12 g/cm³

Solubility

: insoluble in water. soluble in most organic solvents.

Log Pow

: No data available

Log Kow

: No data available

Viscosity, kinematic

: No data available

Viscosity, dynamic

: No data available

Explosive properties

: No data available

Oxidizing properties

: No data available

Explosion limits

: No data available

9.2. Other information

VOC content - Actual

: 46 g/l

VOC content - Regulatory

: 113 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapour.

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10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Hexamethylene Diisocyanate Oligomers (28182-81-2)	
LD50 oral rat	> 2500 mg/kg
LD50 dermal rat	> 2000 mg/kg
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h

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

Reproductive toxicity : Not classified
Specific target organ toxicity – single exposure : May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified
Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : May cause an allergic skin reaction.
Symptoms/effects after eye contact : Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Solvent naphtha (petroleum), light aromatic	
Persistence and degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

Solvent naphtha (petroleum), light aromatic	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

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12.5. Other adverse effects

Effect on ozone layer	: No additional information available
Effect on the global warming	: No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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 vapors may accumulate in the container.

SECTION 14: Transport information

In accordance with DOT	
Transport document description	: UN1263 Paint related material (including paint thinning, drying, removing, or reducing compound), 3, II
UN-No.(DOT)	: UN1263
Proper Shipping Name (DOT)	: Paint related material including paint thinning, drying, removing, or reducing compound
Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT)	: 3 - Flammable liquid



Packing group (DOT)	: II - Medium Danger
DOT Special Provisions (49 CFR 172.102)	: 149 - When transported as a limited quantity or a consumer commodity, the maximum net capacity specified in 173.150(b)(2) of this subchapter for inner packaging may be increased to 5 L (1.3 gallons). B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F). TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 173
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

Additional information

Other information	: No supplementary information available.
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ADR

Transport document description : UN 1263 PAINT RELATED MATERIAL, 3, II, (D/E)
Packing group (ADR) : II
Class (ADR) : 3 - Flammable liquid
Hazard identification number (Kemler No.) : 33
Classification code (ADR) : F1
Hazard labels (ADR) : 3 - Flammable liquids



Orange plates :

Tunnel restriction code (ADR) : D/E
LQ : 5I
Excepted quantities (ADR) : E2

Transport by sea

UN-No. (IMDG) : 1263
Proper Shipping Name (IMDG) : PAINT RELATED MATERIAL
Class (IMDG) : 3 - Flammable liquids
Packing group (IMDG) : II - substances presenting medium danger

Air transport

UN-No. (IATA) : 1263
Proper Shipping Name (IATA) : Paint
Class (IATA) : 3 - Flammable Liquids
Packing group (IATA) : II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

hexamethylene-di-isocyanate	CAS-No. 822-06-0	< 5%
methyl acetate (79-20-9)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory		
4-CHLORO BENZOTRIFLUORIDE (98-56-6)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory		
Solvent naphtha (petroleum), light aromatic		
Not listed on the United States TSCA (Toxic Substances Control Act) inventory		
Hexamethylene Diisocyanate Oligomers (28182-81-2)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory		

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2 H225
Eye Irrit. 2 H319
Skin Sens. 1 H317
STOT SE 3 H335

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STOT SE 3 H336

Aquatic Chronic 2 H411

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

15.2.2. National regulations

Solvent naphtha (petroleum), light aromatic

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Revision date : 10/27/2017

Full text of H-phrases:

H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H411	Toxic to aquatic life with long lasting effects

NFPA health hazard

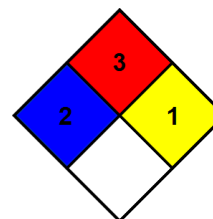
: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard

: 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

NFPA reactivity

: 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



SDS US UPOL

For professional use only.

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