



# RAPTOR HARDENER

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

DRIVING SURFACE PERFECTION

Issue date: 08-26-2021

Revision date: 05-03-2023

Supersedes: 08-26-2021

Version: 1.1

### SECTION 1: Identification

#### 1.1. Product identifier

Product form : Mixture  
 Trade name : RAPTOR HARDENER  
 UP Number : UP8435, UP8436  
 Product group : 2K Hardener  
 Other means of identification : UP8405, UP8406 and UP8407

#### 1.2. Recommended use and restrictions on use

Recommended use : Hardener

#### 1.3. Supplier

##### Distributor

U-POL Canada Limited  
 P.O. Box P.O. BOX 48600  
 BC V7X 1T2 Vancouver - Canada  
 T 1-800-424-9300  
[technicalsupport@u-pol.com](mailto:technicalsupport@u-pol.com) - [www.u-pol.com](http://www.u-pol.com)

#### 1.4. Emergency telephone number

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

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS CA)

Flammable liquids Category 2	H225
Serious eye damage/eye irritation Category 2	H319
Skin sensitization, Category 1	H317
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS CA labeling

Hazard pictograms (GHS CA) :  

Signal word (GHS CA) : Danger

Hazard statements (GHS CA) : H225 - Highly flammable liquid and vapor  
 H317 - May cause an allergic skin reaction  
 H319 - Causes serious eye irritation  
 H335 - May cause respiratory irritation  
 H336 - May cause drowsiness or dizziness

Precautionary statements (GHS CA) : P101 - If medical advice is needed, have product container or label at hand.  
 P102 - Keep out of reach of children.  
 P103 - Read label before use.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P233 - Keep container tightly closed.  
 P261 - Avoid breathing fume, spray, vapors.  
 P264 - Wash hands thoroughly after handling.  
 P271 - Use only outdoors or in a well-ventilated area.  
 P272 - Contaminated work clothing should not be allowed out of the workplace.  
 P280 - Wear eye protection, face protection, protective clothing, protective gloves.  
 P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
 P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

# RAPTOR HARDENER

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

contact lenses, if present and easy to do. Continue rinsing.  
P312 - Call a doctor if you feel unwell.  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P363 - Wash contaminated clothing before reuse.  
P370+P378 - In case of fire: Use dry sand, extinguishing powder, foam to extinguish.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 - Store in a well-ventilated place. Keep cool  
P405 - Store locked up.  
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

### 2.4. Unknown acute toxicity (GHS CA)

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
methyl acetate	methyl acetate acetate of methyl / acetic acid methyl ester / acetic acid, methyl ester / devoton / ethyl ester of monoacetyl acid / methyl acetate / methyl acetate, anhydrous / methyl acetic ester / methyl ester acetic acid / methyl ethanoate / tereton	(CAS-No.) 79-20-9	45 – 60	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
hexamethylene diisocyanate oligomers		(CAS-No.) 28182-81-2	< 45	Acute Tox. 4 (Inhalation), H332 Skin Sens. 1, H317 STOT SE 3, H335
n-butyl acetate	n-butyl acetate 1-acetoxybutane / 1-butyl acetate / acetate of butyl / acetic acid n-butyl ester / acetic acid normal-butyl ester / acetic acid, butyl ester / BUAC / BuAc (=butyl acetate) / butanolacetate / butyl acetate / butyl ethanoate / n-BuAc / n-butyl acetate / normal-butylacetate / normal-butylethanoate	(CAS-No.) 123-86-4	< 3	Flam. Liq. 3, H226 STOT SE 3, H336
solvent naphtha (petroleum), light aromatic	solvent naphtha (petroleum), light arom. / solvent naphtha (petroleum), light aromatic	(CAS-No.) 64742-95-6	< 3	Flam. Liq. 3, H226 STOT SE 3, H336 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411

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

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

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.  
First-aid measures general : Call a poison center/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects (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. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : Treat symptomatically.

# RAPTOR HARDENER

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable extinguishing media

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

#### 5.2. Unsuitable extinguishing media

#### 5.3. Specific hazards arising from the hazardous product

Fire hazard : Highly flammable liquid and vapor.

#### 5.4. 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.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.2. Methods and materials for containment and cleaning up

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.

#### 6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

### 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, spray, fume. 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.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

hexamethylene-di-isocyanate (822-06-0)		
Canada (Quebec)	VEMP (OEL TWA)	0.034 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (OEL TWA) [ppm]	0.005 ppm
Canada (Quebec)	Notations and remarks	EM, S
Canada (Quebec)	Regulatory reference	S-2.1, r. 13 - Regulation respecting occupational health and safety
Alberta	OEL TWA	0.03 mg/m <sup>3</sup>
Alberta	OEL TWA [ppm]	0.005 ppm
Alberta	Regulatory reference	Alberta Regulation 87/2009 (Alberta Regulation 150/2020)
British Columbia	OEL STEL [ppm]	0.01 ppm
British Columbia	OEL TWA [ppm]	0.005 ppm
British Columbia	Notations and remarks	S(R) (respiratory sensitization)
British Columbia	Regulatory reference	OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC)
Manitoba	OEL TWA [ppm]	0.005 ppm (IFV - Inhalable fraction and vapor)
Manitoba	Notations and remarks	TLV® Basis: URT irr; resp sens. Notations: BEI
Manitoba	Regulatory reference	ACGIH
New Brunswick	OEL TWA [ppm]	0.005 ppm

# RAPTOR HARDENER

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

<b>hexamethylene-di-isocyanate (822-06-0)</b>		
New Brunswick	Notations and remarks	URT irr; resp sens
Newfoundland & Labrador	OEL TWA [ppm]	0.005 ppm (IFV - Inhalable fraction and vapor)
Newfoundland & Labrador	Notations and remarks	TLV® Basis: URT irr; resp sens. Notations: BEI
Newfoundland & Labrador	Regulatory reference	ACGIH
Nova Scotia	OEL TWA [ppm]	0.005 ppm (IFV - Inhalable fraction and vapor)
Nova Scotia	Notations and remarks	TLV® Basis: URT irr; resp sens. Notations: BEI
Nova Scotia	Regulatory reference	ACGIH
Nunavut	OEL STEL [ppm]	0.015 ppm
Nunavut	OEL TWA [ppm]	0.005 ppm
Nunavut	Regulatory reference	Occupational Health and Safety Regulations, Nu Reg 003-2016
Northwest Territories	OEL STEL [ppm]	0.015 ppm
Northwest Territories	OEL TWA [ppm]	0.005 ppm
Northwest Territories	Regulatory reference	Occupation Health and Safety Regulations R-039-2015 (R-013-2020)
Ontario	OEL Ceiling [ppm]	0.02 ppm
Ontario	OEL TWA [ppm]	0.005 ppm
Ontario	Regulatory reference	Ontario Occuational Exposure Limits under Regulation 833
Prince Edward Island	OEL TWA [ppm]	0.005 ppm (IFV - Inhalable fraction and vapor)
Prince Edward Island	Notations and remarks	TLV® Basis: URT irr; resp sens. Notations: BEI
Prince Edward Island	Regulatory reference	ACGIH
Saskatchewan	OEL STEL [ppm]	0.015 ppm
Saskatchewan	OEL TWA [ppm]	0.005 ppm
Saskatchewan	Regulatory reference	The Occupational Health and Safety Regulations, 1996. Chapter O-1.1 Reg 1
<b>n-butyl acetate (123-86-4)</b>		
Canada (Quebec)	VECD (OEL STEL) [ppm]	150 ppm
Canada (Quebec)	VEMP (OEL TWA) [ppm]	50 ppm
Canada (Quebec)	Regulatory reference	S-2.1, r. 13 - Regulation respecting occupational health and safety
Alberta	OEL STEL	950 mg/m <sup>3</sup>
Alberta	OEL STEL [ppm]	200 ppm
Alberta	OEL TWA	713 mg/m <sup>3</sup>
Alberta	OEL TWA [ppm]	150 ppm
Alberta	Notations and remarks	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Alberta	Regulatory reference	Alberta Regulation 87/2009 (Alberta Regulation 150/2020)
British Columbia	OEL STEL [ppm]	150 ppm
British Columbia	OEL TWA [ppm]	50 ppm
British Columbia	Regulatory reference	OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC)
Manitoba	OEL STEL [ppm]	150 ppm
Manitoba	OEL TWA [ppm]	50 ppm
Manitoba	Notations and remarks	TLV® Basis: Eye & URT irr
Manitoba	Regulatory reference	ACGIH
Newfoundland & Labrador	OEL STEL [ppm]	150 ppm
Newfoundland & Labrador	OEL TWA [ppm]	50 ppm
Newfoundland & Labrador	Notations and remarks	TLV® Basis: Eye & URT irr
Newfoundland & Labrador	Regulatory reference	ACGIH
Nova Scotia	OEL STEL [ppm]	150 ppm

# RAPTOR HARDENER

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

<b>n-butyl acetate (123-86-4)</b>		
Nova Scotia	OEL TWA [ppm]	50 ppm
Nova Scotia	Notations and remarks	TLV® Basis: Eye & URT irr
Nova Scotia	Regulatory reference	ACGIH
Nunavut	OEL STEL [ppm]	200 ppm
Nunavut	OEL TWA [ppm]	150 ppm
Nunavut	Regulatory reference	Occupational Health and Safety Regulations, Nu Reg 003-2016
Northwest Territories	OEL STEL [ppm]	200 ppm
Northwest Territories	OEL TWA [ppm]	150 ppm
Northwest Territories	Regulatory reference	Occupation Health and Safety Regulations R-039-2015 (R-013-2020)
Ontario	OEL STEL [ppm]	200 ppm
Ontario	OEL TWA [ppm]	150 ppm
Ontario	Regulatory reference	Ontario Occuational Exposure Limits under Regulation 833
Prince Edward Island	OEL STEL [ppm]	150 ppm
Prince Edward Island	OEL TWA [ppm]	50 ppm
Prince Edward Island	Notations and remarks	TLV® Basis: Eye & URT irr
Prince Edward Island	Regulatory reference	ACGIH
Saskatchewan	OEL STEL [ppm]	200 ppm
Saskatchewan	OEL TWA [ppm]	150 ppm
Saskatchewan	Regulatory reference	The Occupational Health and Safety Regulations, 1996. Chapter O-1.1 Reg 1
<b>methyl acetate (79-20-9)</b>		
Canada (Quebec)	VECD (OEL STEL)	757 mg/m <sup>3</sup>
Canada (Quebec)	VECD (OEL STEL) [ppm]	250 ppm
Canada (Quebec)	VEMP (OEL TWA)	606 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (OEL TWA) [ppm]	200 ppm
Canada (Quebec)	Regulatory reference	S-2.1, r. 13 - Regulation respecting occupational health and safety
Alberta	OEL STEL	757 mg/m <sup>3</sup>
Alberta	OEL STEL [ppm]	250 ppm
Alberta	OEL TWA	606 mg/m <sup>3</sup>
Alberta	OEL TWA [ppm]	200 ppm
Alberta	Regulatory reference	Alberta Regulation 87/2009 (Alberta Regulation 150/2020)
British Columbia	OEL STEL [ppm]	250 ppm
British Columbia	OEL TWA [ppm]	200 ppm
British Columbia	Regulatory reference	OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC)
Manitoba	OEL STEL [ppm]	250 ppm
Manitoba	OEL TWA [ppm]	200 ppm
Manitoba	Notations and remarks	TLV® Basis: Headache; dizziness; nausea; eye dam (degeneration of ganglion cells in the retina)
Manitoba	Regulatory reference	ACGIH
New Brunswick	OEL STEL [ppm]	250 ppm
New Brunswick	OEL TWA [ppm]	200 ppm
New Brunswick	Notations and remarks	eye & URT irr
Newfoundland & Labrador	OEL STEL [ppm]	250 ppm
Newfoundland & Labrador	OEL TWA [ppm]	200 ppm
Newfoundland & Labrador	Notations and remarks	TLV® Basis: Headache; dizziness; nausea; eye dam (degeneration of ganglion cells in the retina)
Newfoundland & Labrador	Regulatory reference	ACGIH
Nova Scotia	OEL STEL [ppm]	250 ppm

# RAPTOR HARDENER

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

methyl acetate (79-20-9)		
Nova Scotia	OEL TWA [ppm]	200 ppm
Nova Scotia	Notations and remarks	TLV® Basis: Headache; dizziness; nausea; eye dam (degeneration of ganglion cells in the retina)
Nova Scotia	Regulatory reference	ACGIH
Nunavut	OEL STEL [ppm]	250 ppm
Nunavut	OEL TWA [ppm]	200 ppm
Nunavut	Regulatory reference	Occupational Health and Safety Regulations, Nu Reg 003-2016
Northwest Territories	OEL STEL [ppm]	250 ppm
Northwest Territories	OEL TWA [ppm]	200 ppm
Northwest Territories	Regulatory reference	Occupation Health and Safety Regulations R-039-2015 (R-013-2020)
Ontario	OEL STEL [ppm]	250 ppm
Ontario	OEL TWA [ppm]	200 ppm
Ontario	Regulatory reference	Ontario Occuational Exposure Limits under Regulation 833
Prince Edward Island	OEL STEL [ppm]	250 ppm
Prince Edward Island	OEL TWA [ppm]	200 ppm
Prince Edward Island	Notations and remarks	TLV® Basis: Headache; dizziness; nausea; eye dam (degeneration of ganglion cells in the retina)
Prince Edward Island	Regulatory reference	ACGIH
Saskatchewan	OEL STEL [ppm]	250 ppm
Saskatchewan	OEL TWA [ppm]	200 ppm
Saskatchewan	Regulatory reference	The Occupational Health and Safety Regulations, 1996. Chapter O-1.1 Reg 1

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Protective gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

#### Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Liquid  
Appearance : Liquid.  
Color : Colorless  
Odor : characteristic  
Odor threshold : No data available  
pH : No data available  
Relative evaporation rate (butyl acetate=1) : No data available

# RAPTOR HARDENER

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Relative evaporation rate (ether=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: 57 °C
Flash point	: -13 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability	: Not applicable
Vapor pressure	: No data available
Vapor pressure at 50°C	: No data available
Relative density	: No data available
Density	: 1.02 g/cm <sup>3</sup>
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Explosion limits	: No data available

### 9.2. Other information

As Packaged Regulatory VOC	: 113 g/l (0.9 lbs/gal)
As Packaged Actual VOC	: 50.8 g/l (0.4 lbs/gal)
Water Content	0 wt%
Exempt Compounds by volume	: 55.02 vol %
Exempt Compounds by weight	: 50.25 wt%
Volatiles	: 55.23 wt%
% EPA HAPS	: 0.07 wt%
Percent Solids	: 44.78 wt%

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity	: Highly flammable liquid and vapor.
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

### 11.1. Information on toxicological effects

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

<b>n-butyl acetate (123-86-4)</b>	
LD50 oral rat	10760 – 12789 mg/kg body weight (Equivalent or similar to OECD 423, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 14112 mg/kg body weight (Equivalent or similar to OECD 402, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	23.4 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Inhalation (mixture of vapour and aerosol), 14 day(s))
LC50 Inhalation - Rat [ppm]	390 ppm/4h
LC50 Inhalation - Rat (Vapours)	> 21 mg/l/4h (4 h, OECD Test Guideline 403, rat, vapours)
ATE CA (oral)	10760 mg/kg body weight
ATE CA (Gases)	390 ppmV/4h
ATE CA (vapors)	23.4 mg/l/4h
ATE CA (dust,mist)	23.4 mg/l/4h

<b>solvent naphtha (petroleum), light aromatic (64742-95-6)</b>	
LD50 oral rat	> 5000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 3160 mg/kg (OECD Test Guideline 402)
LC50 Inhalation - Rat (Vapours)	> 6.193 mg/l/4h (4 h, OECD Test Guideline 403, vapours)



# RAPTOR HARDENER

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

<b>hexamethylene diisocyanate oligomers (28182-81-2)</b>	
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)	0.39 mg/l/4h (OECD Test Guideline 403, rat, female, inhalation, dust/mist)
ATE CA (Gases)	4500 ppmV/4h
ATE CA (vapors)	11 mg/l/4h
ATE CA (dust,mist)	0.39 mg/l/4h

<b>methyl acetate (79-20-9)</b>	
LD50 oral rat	6482 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	49 mg/l
ATE CA (oral)	6482 mg/kg body weight
ATE CA (vapors)	49 mg/l/4h
ATE CA (dust,mist)	49 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

STOT-single exposure : May cause drowsiness or dizziness. May cause respiratory irritation.

<b>n-butyl acetate (123-86-4)</b>	
STOT-single exposure	May cause drowsiness or dizziness.

<b>solvent naphtha (petroleum), light aromatic (64742-95-6)</b>	
STOT-single exposure	May cause drowsiness or dizziness. May cause respiratory irritation.

<b>hexamethylene diisocyanate oligomers (28182-81-2)</b>	
STOT-single exposure	May cause respiratory irritation.

<b>methyl acetate (79-20-9)</b>	
STOT-single exposure	May cause drowsiness or dizziness.

: Not classified

STOT-repeated exposure

<b>methyl acetate (79-20-9)</b>	
LOAEC (inhalation, rat, vapor, 90 days)	2000 mg/l
NOAEC (inhalation, rat, vapor, 90 days)	1057 mg/m <sup>3</sup>

Aspiration hazard : Not classified

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.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.  
Hazardous to the aquatic environment, short-term (acute) : Not classified  
Hazardous to the aquatic environment, long-term (chronic) : Not classified

<b>n-butyl acetate (123-86-4)</b>	
LC50 - Fish [1]	18 mg/l Test organisms (species): Pimephales promelas



# RAPTOR HARDENER

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

<b>n-butyl acetate (123-86-4)</b>	
LC50 - Fish [2]	62 mg/l (Leuciscus idus, static system)
EC50 - Crustacea [1]	44 mg/l Test organisms (species): Daphnia sp.
ErC50 algae	397 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Read-across, GLP)
NOEC (chronic)	23 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic crustacea	23 mg/l
Partition coefficient n-octanol/water (Log Pow)	2.3 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.268 – 1.844 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

<b>solvent naphtha (petroleum), light aromatic (64742-95-6)</b>	
Partition coefficient n-octanol/water (Log Pow)	2.1 – 6

<b>methyl acetate (79-20-9)</b>	
LC50 - Fish [1]	250 – 350 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	1026.7 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 120 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
BCF - Fish [1]	< 1 (Pisces, Literature study)
Partition coefficient n-octanol/water (Log Pow)	0.18 (Experimental value, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.18 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)

### 12.2. Persistence and degradability

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

<b>solvent naphtha (petroleum), light aromatic (64742-95-6)</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.

<b>methyl acetate (79-20-9)</b>	
Persistence and degradability	Readily biodegradable in water.

### 12.3. Bioaccumulative potential

<b>n-butyl acetate (123-86-4)</b>	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Partition coefficient n-octanol/water (Log Pow)	2.3 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.268 – 1.844 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

<b>solvent naphtha (petroleum), light aromatic (64742-95-6)</b>	
Bioaccumulative potential	Not established.
Partition coefficient n-octanol/water (Log Pow)	2.1 – 6

<b>methyl acetate (79-20-9)</b>	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
BCF - Fish [1]	< 1 (Pisces, Literature study)
Partition coefficient n-octanol/water (Log Pow)	0.18 (Experimental value, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.18 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)

### 12.4. Mobility in soil

<b>n-butyl acetate (123-86-4)</b>	
Surface tension	61.3 mN/m (20 °C, 0.1 %, OECD 115: Surface Tension of Aqueous Solutions)
Ecology - soil	Highly mobile in soil. Not toxic to plants.
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.268 – 1.844 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	2.3 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)

<b>solvent naphtha (petroleum), light aromatic (64742-95-6)</b>	
Partition coefficient n-octanol/water (Log Pow)	2.1 – 6

# RAPTOR HARDENER

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

methyl acetate (79-20-9)	
Surface tension	24 mN/m (20 °C)
Ecology - soil	Highly mobile in soil.
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.18 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	0.18 (Experimental value, 20 °C)

### 12.5. Other adverse effects

Ozone : Not classified

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

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

### 14.1. Basic shipping description

In accordance with TDG

#### Transportation of Dangerous Goods

UN-No. (TDG) : UN1263  
Packing group (TDG) : II - Medium Danger  
TDG Primary Hazard Classes : 3 - Class 3 - Flammable Liquids  
Transport document description (TDG) : UN1263 PAINT RELATED MATERIAL, 3, II  
Proper Shipping Name (TDG) : PAINT RELATED MATERIAL

Hazard labels (TDG) : 3 - Flammable Liquids



TDG Special Provisions : 59 - Substances that are listed by name in Schedule 1 must not be transported under this shipping name. Substances transported under this shipping name may contain not more than 20% nitrocellulose if the nitrocellulose contains not more than 12.6% nitrogen (by dry mass).  
142 - The following shipping names may be used to meet the requirements of Part 3 (Documentation) and Part 4 (Dangerous Goods Safety Marks) when these dangerous goods are offered for transport in the same means of containment:  
(a) "PAINT RELATED MATERIAL" may be used for a means of containment containing both paint and paint related material;  
(b) "PAINT RELATED MATERIAL, CORROSIVE, FLAMMABLE" may be used for a means of containment containing both paint, corrosive, flammable, and paint related material, corrosive, flammable;  
(c) "PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE" may be used for a means of containment containing both paint, flammable, corrosive, and paint related material, flammable, corrosive; and  
(d) "PRINTING INK RELATED MATERIAL" may be used for a means of containment containing both printing ink and printing ink related material.

Explosive Limit and Limited Quantity Index : 5 L  
Excepted quantities (TDG) : E2  
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : 5 L

### 14.2. Transport information/DOT

#### Department of Transport

DOT NA No : UN1263  
UN-No.(DOT) : 1263  
Packing group (DOT) : II - Medium Danger  
Transport document description (DOT) : UN1263 Paint related material, 3, II  
Proper Shipping Name (DOT) : Paint related material  
Contains Statement Field Selection (DOT) :

# RAPTOR HARDENER

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
Division (DOT) : 3  
Hazard labels (DOT) : 3 - Flammable liquid



Marine pollutant : NO  
Dangerous for the environment : No  
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).  
367 - For the purposes of documentation and package marking: a. The proper shipping name "Paint related material" may be used for consignments of packages containing "Paint" and "Paint related material" in the same package; b. The proper shipping name "Paint related material, corrosive, flammable" may be used for consignments of packages containing "Paint, corrosive, flammable" and "Paint related material, corrosive, flammable" in the same package; c. The proper shipping name "Paint related material, flammable, corrosive" may be used for consignments of packages containing "Paint, flammable, corrosive" and "Paint related material, flammable, corrosive" in the same package; and d. The proper shipping name "Printing ink related material" may be used for consignments of packages containing "Printing ink" and "Printing ink related material" in the same package.  
383 - Packages containing toy plastic or paper caps for toy pistols described as "UN0349, Articles, explosive, n.o.s. (Toy caps), 1.4S" or "NA0337, Toy caps, 1.4S" are not subject to the subpart E (labeling) requirements of this part when offered for transportation by motor vehicle, rail freight, cargo vessel, and cargo aircraft and, notwithstanding the packing method assigned in §173.62 of this subchapter, in conformance with the following conditions:  
B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks.  
B131 - When transported by highway, rail, or cargo vessel, waste Paint and Paint related material (UN1263; PG II and PG III), when in plastic or metal inner packagings of not more than 26.5 L (7 gallons), are excepted from the marking requirements in §172.301(a) and (c) and the labeling requirements in §172.400(a), when further packed in the following specification and non-specification bulk outer packagings and under the following conditions:  
a. Primary receptacles must conform to the general packaging requirements of subpart B of part 173 of this subchapter and may not leak. If they do leak, they must be overpacked in packagings conforming to the specification requirements of part 178 of this subchapter or in salvage packagings conforming to the requirements in §173.12 of this subchapter.  
b. Primary receptacles must be further packed in non-specification bulk outer packagings such as cubic yard boxes, plastic rigid-wall bulk containers, dump trailers, and roll-off containers. Bulk outer packagings must be liquid tight through design or by the use of lining materials.  
c. Primary receptacles may also be further packed in specification bulk outer packagings. Authorized specification bulk outer packagings are UN11G fiberboard intermediate bulk containers (IBC) and UN13H4 woven plastic, coated and with liner flexible intermediate bulk containers (FIBCs) meeting the Packing Group II performance level and lined with a plastic liner of at least 6 mil thickness.  
d. All inner packagings placed inside bulk outer packagings must be blocked and braced to prevent movement during transportation that could cause the container to open or fall over. Specification IBCs and FIBCs are to be secured to a pallet.  
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

# RAPTOR HARDENER

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

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.

Emergency Response Guide (ERG) Number : 128

Other information : No supplementary information available.

### 14.3. Air and sea transport

#### IMDG

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

#### IATA

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

## SECTION 15: Regulatory information

### 15.1. National regulations

#### n-butyl acetate (123-86-4)

Listed on the Canadian DSL (Domestic Substances List)

#### solvent naphtha (petroleum), light aromatic (64742-95-6)

Listed on the Canadian DSL (Domestic Substances List)

#### hexamethylene diisocyanate oligomers (28182-81-2)

Listed on the Canadian DSL (Domestic Substances List)

#### methyl acetate (79-20-9)

Listed on the Canadian DSL (Domestic Substances List)

### 15.2. International regulations

#### n-butyl acetate (123-86-4)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### solvent naphtha (petroleum), light aromatic (64742-95-6)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### hexamethylene diisocyanate oligomers (28182-81-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### methyl acetate (79-20-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

## SECTION 16: Other information

Issue date : 08-26-2021

Revision date : 05-03-2023

Supersedes : 08-26-2021

Full text of H-phrases:

H225	Highly flammable liquid and vapor
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

# RAPTOR HARDENER

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

H336	May cause drowsiness or dizziness
H411	Toxic to aquatic life with long lasting effects

SDS Canada U-POL

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*