

SECTION 1: Identification**1.1. Identification**

Product form : Mixture
Product name : ACTIVATOR-EP-2C SEALER B
Product code : FUB0651

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

No additional information available

1.3. Details of the supplier of the safety data sheet

Endura Manufacturing Company Ltd.
12425 149 Street NW
Edmonton, T5L 2J6 - Canada
T 1-780-451-4242 - F 1-780-452-5079
info@endura.ca - www.endurapaint.com

1.4. Emergency telephone number

Emergency number : In the event of an emergency involving dangerous goods:
in Canada call CHEMTREC at 1-800-424-9300 24 hours / 7 days (Account Name for Canada
Endura Manufacturing Co. Ltd.)
in the US call CHEMTREC at 1-800-424-9300 24 hours / 7 days (Account Name for US is
Polyglass Coatings)

SECTION 2: Hazard(s) identification**2.1. Classification of the substance or mixture****GHS US classification**

Flammable liquids Category 2	H225	Highly flammable liquid and vapor
Acute toxicity (inhalation:dust,mist) Category 4	H332	Harmful if inhaled
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Respiratory sensitization, Category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Carcinogenicity Category 2	H351	Suspected of causing cancer
Specific target organ toxicity (single exposure) Category 3	H336	May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure) Category 2	H373	May cause damage to organs through prolonged or repeated exposure

Full text of H statements : see section 16

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 vapor
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H336 - May cause drowsiness or dizziness
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting equipment

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P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing must not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P284 - [In case of inadequate ventilation] wear respiratory protection.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P304+P341 - If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned: Get medical advice/attention.
P312 - Call a poison center/doctor/physician if you feel unwell
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see 4.1. First aid procedures on this label)
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P342+P311 - If experiencing respiratory symptoms: Call a poison center or doctor
P362+P364 - Take off contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2) 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 in accordance with all local, regional, national and international regulations.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

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Name	Product identifier	wt%	GHS US classification
n-butyl acetate	(CAS-No.) 123-86-4	10 – 20	Flam. Liq. 3, H226 Acute Tox. 2 (Inhalation:vapour), H330 STOT SE 3, H336
ethyl acetate	(CAS-No.) 141-78-6	10 – 20	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
xylene, mixture of isomers	(CAS-No.) 1330-20-7	12.274	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315
heptan-2-one	(CAS-No.) 110-43-0	5 – 10	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:vapour), H332
4,4'-methylenediphenyl diisocyanate	(CAS-No.) 101-68-8	2.342 – 3.123	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373
methylenediphenyl diisocyanate, isomer mixture	(CAS-No.) 26447-40-5	1.171 – 1.952	Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373
2,4-toluene diisocyanate	(CAS-No.) 584-84-9	0.125	Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : IF exposed or concerned: Get medical advice/attention. 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. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. Call a poison center/doctor/physician if you feel unwell.
- First-aid measures after skin contact : Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see 4.1. First aid procedures on this label). If skin irritation or rash occurs: Rinse skin with water/shower. Remove/Take off all contaminated clothing immediately. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist. 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 : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. 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 : Danger of serious damage to health by prolonged exposure through inhalation. May cause an allergic skin reaction. May cause drowsiness or dizziness. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Symptoms/effects after skin contact : Causes skin irritation. Irritation. May cause an allergic skin reaction.
- Symptoms/effects after eye contact : Irritation to eyes.

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Symptoms/effects after ingestion : Harmful if swallowed.

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 : Sand. Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapor.
Explosion hazard : May form flammable/explosive vapor-air mixture.
Reactivity : Highly flammable liquid and vapor.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. 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

General measures : Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. Avoid breathing dust/fume/gas/mist/vapors/spray. For further information refer to section 8 Exposure controls/personal protection".
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. 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

See Heading 8. Exposure controls and personal protection. For further information refer to section 8 : Exposure-controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.
Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No naked lights. No smoking. 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. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.
Hygiene measures : Wash thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical/ventilating/lighting equipment. Ground/bond container and receiving equipment.
Storage conditions	: Keep only in the original container in a cool, well ventilated place away from : Keep in fireproof place. Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Incompatible products	: Strong bases. strong acids.
Incompatible materials	: Sources of ignition. Direct sunlight. Heat sources.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

4,4'-methylenediphenyl diisocyanate (101-68-8)		
ACGIH	ACGIH TWA (ppm)	0.005 ppm
ACGIH	Remark (ACGIH)	Resp sens
OSHA	OSHA PEL (Ceiling) (mg/m ³)	0.2 mg/m ³
OSHA	OSHA PEL (Ceiling) (ppm)	0.02 ppm

ethyl acetate (141-78-6)		
ACGIH	ACGIH TWA (ppm)	400 ppm
ACGIH	Remark (ACGIH)	URT & eye irr
OSHA	OSHA PEL (TWA) (mg/m ³)	1400 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	400 ppm

2,4-toluene diisocyanate (584-84-9)		
ACGIH	ACGIH TWA (mg/m ³)	Inhalable fraction and vapor
ACGIH	ACGIH TWA (ppm)	0.001 ppm
ACGIH	ACGIH STEL (ppm)	0.005 ppm (Inhalable fraction and vapor)
ACGIH	Remark (ACGIH)	Asthma; skin; DSEN; RSEN; A3
OSHA	OSHA PEL (Ceiling) (mg/m ³)	0.14 mg/m ³
OSHA	OSHA PEL (Ceiling) (ppm)	0.02 ppm

heptan-2-one (110-43-0)		
ACGIH	ACGIH TWA (ppm)	50 ppm
ACGIH	Remark (ACGIH)	Eye & skin irr
OSHA	OSHA PEL (TWA) (mg/m ³)	465 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm

n-butyl acetate (123-86-4)		
ACGIH	ACGIH TWA (ppm)	50 ppm
ACGIH	ACGIH STEL (ppm)	150 ppm
ACGIH	Remark (ACGIH)	Eye & URT irr
OSHA	OSHA PEL (TWA) (mg/m ³)	710 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	150 ppm

xylene, mixture of isomers (1330-20-7)		
ACGIH	Remark (ACGIH)	URT & eye irr; CNS impair
OSHA	OSHA PEL (TWA) (mg/m ³)	435 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm
OSHA	OSHA PEL (STEL) (mg/m ³)	655 mg/m ³

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8.2. Exposure controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Personal protective equipment	: Avoid all unnecessary exposure.
Hand protection	: Wear protective gloves.
Eye protection	: Chemical goggles or safety glasses. Safety glasses.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: In case of inadequate ventilation wear respiratory protection. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Wear respiratory protection.
Environmental exposure controls	: Avoid release to the environment.
Other information	: When using, do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: No data available
Odor	: characteristic
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: 75 °C 167 °F
Flash point	: -4 °C 24.8 °F
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: 1 – 11.5 vol %
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Specific gravity / density	: 0.983 g/cm ³
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

VOC content (Regulatory - Less water and exempt solvents)	: 675.67 g/l 5.639 lb/gal
VOC content (Material - Actual)	: 675.67 g/l 5.639 lb/gal
Percent Solids (Weight)	: 31.23 %
Percent Solids (Volume)	: 23.899 %
Percent Volatile (Weight)	: 68.77 %
Percent Volatile (Volume)	: 76.101 %

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SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapor.

10.2. Chemical stability

Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Dermal; Inhalation; Skin and eye contact

Acute toxicity : Not classified

ACTIVATOR-EP-2C SEALER B	
ATE US (dust, mist)	2.824 mg/l/4h
4,4'-methylenediphenyl diisocyanate (101-68-8)	
LD50 oral rat	> 2000 mg/kg body weight (Rat, Male / female, Read-across, Oral, 14 day(s))
LD50 dermal rabbit	> 9400 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Read-across, Dermal, 14 day(s))
LC50 inhalation rat (mg/l)	0.49 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Read-across, Inhalation (aerosol), 14 day(s))
ATE US (dust, mist)	1.5 mg/l/4h
methylenediphenyl diisocyanate, isomer mixture (26447-40-5)	
LD50 oral rat	> 2000 mg/kg body weight (Other, Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	> 9400 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Read-across, Skin)
LC50 inhalation rat (mg/l)	0.49 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Read-across, Inhalation (aerosol))
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h
ethyl acetate (141-78-6)	
LD50 oral rat	10200 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 20000 mg/kg body weight (24 hour cuff method, 24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))
ATE US (oral)	10200 mg/kg body weight
2,4-toluene diisocyanate (584-84-9)	
LD50 oral rat	4130 – 5110 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Read-across, Oral, 14 day(s))
LD50 dermal rabbit	> 9400 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Read-across, Dermal, 14 day(s))
LC50 inhalation rat (mg/l)	0.48 mg/l (Equivalent or similar to OECD 403, 1 h, Rat, Male / female, Read-across, Inhalation (vapours), 14 day(s))
ATE US (oral)	4130 mg/kg body weight
ATE US (vapors)	0.48 mg/l/4h
ATE US (dust, mist)	0.48 mg/l/4h

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heptan-2-one (110-43-0)	
LD50 oral rat	1600 mg/kg body weight (Rat, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	> 16.7 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))
ATE US (oral)	1600 mg/kg body weight
ATE US (vapors)	11 mg/l/4h

n-butyl acetate (123-86-4)	
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 (mg/l)	0.74 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Inhalation (mixture of vapour and aerosol), 14 day(s))
ATE US (oral)	10760 mg/kg body weight
ATE US (vapors)	0.74 mg/l/4h
ATE US (dust, mist)	0.74 mg/l/4h

xylene, mixture of isomers (1330-20-7)	
LD50 oral rat	3523 – 8600 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature study; 3523 mg/kg bodyweight; Rat; OECD 401: Acute Oral Toxicity; Experimental value; >4000 mg/kg bodyweight; Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rabbit	> 4200 mg/kg body weight (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity)
LC50 inhalation rat (mg/l)	29 mg/l/4h (Rat; Experimental value; 27.57 mg/l/4h; Rat; Experimental value)
ATE US (oral)	3523 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
ATE US (vapors)	29 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.

xylene, mixture of isomers (1330-20-7)	
IARC group	3 - Not Classifiable

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

Specific target organ toxicity – repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
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Aspiration hazard	: Not classified
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Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met. Harmful if inhaled.
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Symptoms/effects after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. May cause an allergic skin reaction. May cause drowsiness or dizziness. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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Symptoms/effects after skin contact	: Causes skin irritation. Irritation. May cause an allergic skin reaction.
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Symptoms/effects after eye contact	: Irritation to eyes.
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Symptoms/effects after ingestion	: Harmful if swallowed.
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

4,4'-methylenediphenyl diisocyanate (101-68-8)	
LC50 fish 1	> 1000 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Static system, Fresh water, Read-across, Nominal concentration)
EC50 Daphnia 1	129.7 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 24 h, Daphnia magna, Static system, Fresh water, Read-across, Locomotor effect)
ErC50 (algae)	> 1640 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Read-across, GLP)

methylenediphenyl diisocyanate, isomer mixture (26447-40-5)	
LC50 fish 1	> 1000 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Brachydanio rerio, Static system, Fresh water, Read-across, Lethal)
EC50 Daphnia 1	> 1000 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 24 h, Daphnia magna, Static system, Fresh water, Read-across)

ethyl acetate (141-78-6)	
LC50 fish 1	230 mg/l (US EPA, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)

2,4-toluene diisocyanate (584-84-9)	
LC50 fish 1	133 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Read-across)
EC50 Daphnia 1	12.5 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Read-across, Nominal concentration)

heptan-2-one (110-43-0)	
LC50 fish 1	131 mg/l (EPA OPP 72-1, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
EC50 Daphnia 1	> 90.1 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, GLP)

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, Lethal)
EC50 Daphnia 1	44 mg/l (Equivalent or similar to OECD 202, 48 h, Daphnia sp., Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 (algae)	397 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Read-across, GLP)

12.2. Persistence and degradability

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Persistence and degradability	Not established.

4,4'-methylenediphenyl diisocyanate (101-68-8)	
Persistence and degradability	Not readily biodegradable in water.

methylenediphenyl diisocyanate, isomer mixture (26447-40-5)	
Persistence and degradability	Contains non readily biodegradable component(s).

ethyl acetate (141-78-6)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.293 g O ₂ /g substance
Chemical oxygen demand (COD)	1.69 g O ₂ /g substance
ThOD	1.82 g O ₂ /g substance

2,4-toluene diisocyanate (584-84-9)	
Persistence and degradability	Non degradable in the soil. Not readily biodegradable in water.

heptan-2-one (110-43-0)	
Persistence and degradability	Readily biodegradable in water.
BOD (% of ThOD)	0.44

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n-butyl acetate (123-86-4)	
Persistence and degradability	Readily biodegradable in water.
ThOD	2.21 g O ₂ /g substance
BOD (% of ThOD)	0.46

xylene, mixture of isomers (1330-20-7)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available. Photolysis in the air.

12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.

4,4'-methylenediphenyl diisocyanate (101-68-8)	
BCF fish 1	92 – 200 (OECD 305: Bioconcentration: Flow-Through Fish Test, 4 week(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	4.51 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 22 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

methylenediphenyl diisocyanate, isomer mixture (26447-40-5)	
BCF fish 1	92 (OECD 305: Bioconcentration: Flow-Through Fish Test, 28 day(s), Cyprinus carpio, Flow-through system, Fresh water, Read-across, GLP)
Partition coefficient n-octanol/water (Log Pow)	4.51 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 22 °C)
Bioaccumulative potential	Does not contain bioaccumulative component(s).

ethyl acetate (141-78-6)	
BCF fish 1	30 (3 day(s), Leuciscus idus, Static renewal, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	0.68 (Experimental value, EPA OPPTS 830.7560, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

2,4-toluene diisocyanate (584-84-9)	
BCF fish 1	130 – 180 (OECD 305: Bioconcentration: Flow-Through Fish Test, 60 day(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	3.43 (Conclusion by analogy, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 22 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

heptan-2-one (110-43-0)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

n-butyl acetate (123-86-4)	
Partition coefficient n-octanol/water (Log Pow)	2.3 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

xylene, mixture of isomers (1330-20-7)	
BCF fish 2	7 – 26 (BCF; 8 weeks; Oncorhynchus mykiss; Flow-through system; Fresh water)
Partition coefficient n-octanol/water (Log Pow)	3.2 (Conclusion by analogy; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

4,4'-methylenediphenyl diisocyanate (101-68-8)	
Surface tension	No data available in the literature
Partition coefficient n-octanol/water (Log Koc)	4.53 – 5.455 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Adsorbs into the soil.

methylenediphenyl diisocyanate, isomer mixture (26447-40-5)	
Ecology - soil	No (test)data on mobility of the components available.

ethyl acetate (141-78-6)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for adsorption in soil.

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2,4-toluene diisocyanate (584-84-9)	
Surface tension	No data available (test not performed)
Partition coefficient n-octanol/water (Log Koc)	3.246 – 3.871 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for mobility in soil.
heptan-2-one (110-43-0)	
Surface tension	0.0591 N/m (21.6 °C, EU Method A.5: Surface tension)
Partition coefficient n-octanol/water (Log Koc)	1.45 (log Koc, EU Method C.19, Experimental value)
Ecology - soil	Highly mobile in soil.
n-butyl acetate (123-86-4)	
Surface tension	61.3 mN/m (20 °C, 0.1 %, OECD 115: Surface Tension of Aqueous Solutions)
Partition coefficient n-octanol/water (Log Koc)	1.268 – 1.844 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.
xylene, mixture of isomers (1330-20-7)	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container in accordance with all local, regional, national and international regulations.

Additional information : Handle empty containers with care because residual vapors are flammable. Flammable vapors may accumulate in the container.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

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 Packaging Non Bulk (49 CFR 173.xxx) : 173

DOT Packaging Bulk (49 CFR 173.xxx) : 242

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- 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 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.
- Other information : No supplementary information available.

Transportation of Dangerous Goods

- Transport document description : UN1263 PAINT RELATED MATERIAL (PAINT RELATED MATERIAL), 3, II
- UN-No. (TDG) : UN1263
- Proper Shipping Name (Transportation of Dangerous Goods) : PAINT RELATED MATERIAL
- TDG Primary Hazard Classes : 3 - Class 3 - Flammable Liquids
- Packing group : II - Medium Danger
- 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 per cent nitrocellulose if the nitrocellulose contains not more than 12.6 per cent nitrogen (by dry mass),83 - Repealed SOR/2014-152
- Explosive Limit and Limited Quantity Index : 5
- Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : 5

Transport by sea

- UN-No. (IMDG) : 1263
- Class (IMDG) : 3 - Flammable liquids
- Packing group (IMDG) : II - substances presenting medium danger

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

polymethylene polyphenyl isocyanate	CAS-No. 9016-87-9	3.123 – 3.904%
4,4'-methylenediphenyl diisocyanate	CAS-No. 101-68-8	2.342 – 3.123%
2,4-toluene diisocyanate	CAS-No. 584-84-9	0.125%

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2,6-toluene diisocyanate	CAS-No. 91-08-7	< 5%
xylene, mixture of isomers	CAS-No. 1330-20-7	12.274%

4,4'-methylenediphenyl diisocyanate (101-68-8)

Listed on SARA Section 313 (Specific toxic chemical listings)

CERCLA RQ 5000 lb

ethyl acetate (141-78-6)

Not listed on SARA Section 313 (Specific toxic chemical listings)

CERCLA RQ 5000 lb

2,4-toluene diisocyanate (584-84-9)

Listed on SARA Section 313 (Specific toxic chemical listings)

CERCLA RQ 100 lb

SARA Section 302 Threshold Planning Quantity (TPQ) 500 lb

n-butyl acetate (123-86-4)

Not listed on SARA Section 313 (Specific toxic chemical listings)

CERCLA RQ 5000 lb

xylene, mixture of isomers (1330-20-7)

Listed on SARA Section 313 (Specific toxic chemical listings)

CERCLA RQ 100 lb

15.2. International regulations

CANADA

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Listed on the Canadian DSL (Domestic Substances List) inventory.

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

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

4,4'-methylenediphenyl diisocyanate (101-68-8)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

ethyl acetate (141-78-6)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

2,4-toluene diisocyanate (584-84-9)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

heptan-2-one (110-43-0)

U.S. - New Jersey - Right to Know Hazardous Substance List

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n-butyl acetate (123-86-4)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

xylene, mixture of isomers (1330-20-7)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Revision date : 06/17/2021
Other information : None.

Full text of H-phrases:

H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H302	Harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H330	Fatal 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
H351	Suspected of causing cancer
H373	May cause damage to organs through prolonged or repeated exposure

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