



DRIVING SURFACE PERFECTION

RAPTOR ETCH PRIMER

Safety Data Sheet RAAEP-R-US

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

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SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Trade name : RAPTOR ETCH PRIMER
 Product code : UP5023
 UP Number : UP5023
 Other means of identification : Component of: UP5026 and UP5039

1.2. Recommended use and restrictions on use

No additional information available

1.3. 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 (UK +44 (0) 1933 230310 (07:30 - 17:00hrs UK time))

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Flammable aerosol Category 1	Extremely flammable aerosol
Gases under pressure Liquefied gas	Contains gas under pressure; may explode if heated
Skin corrosion/irritation Category 2	Causes skin irritation
Serious eye damage/eye irritation Category 1	Causes serious eye damage
Carcinogenicity Category 2	Suspected of causing cancer
Specific target organ toxicity (single exposure) Category 3	May cause drowsiness or dizziness
Hazardous to the aquatic environment - Chronic Hazard Category 2	Toxic to aquatic life with long lasting effects

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :

- Extremely flammable aerosol
- Contains gas under pressure; may explode if heated
- Causes skin irritation
- Causes serious eye damage
- May cause drowsiness or dizziness
- Suspected of causing cancer
- Toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) :

- Keep out of reach of children.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Do not spray on an open flame or other ignition source.
- Pressurized container: Do not pierce or burn, even after use.
- Avoid breathing fume, spray, vapors.
- Wear eye protection, protective clothing, protective gloves.
- If on skin: Wash with plenty of water
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- If exposed or concerned: Get medical advice/attention.
- Protect from sunlight. Store in a well-ventilated place.
- Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

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2.3. Other hazards which do not result in classification

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

Name	Product identifier	%	GHS-US classification
methyl acetate	(CAS-No.) 79-20-9	5 - 23	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336
1-butanol	(CAS-No.) 71-36-3	5 - 23	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336
titanium(IV) oxide	(CAS-No.) 13463-67-7	5 - 23	Carc. 2, H351
cyclohexane	(CAS-No.) 110-82-7	< 5	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2-methylpropan-1-ol, iso-butanol	(CAS-No.) 78-83-1	< 5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336
ethylbenzene	(CAS-No.) 100-41-4	< 5	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304

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 general	: IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation 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. Call a physician immediately.
First-aid measures after ingestion	: 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 skin contact	: Irritation.
Symptoms/effects after eye contact	: Serious damage to eyes.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

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

5.2. Specific hazards arising from the chemical

Fire hazard	: Extremely flammable aerosol.
Explosion hazard	: Pressurized container: may burst if heated.
Reactivity	: Extremely flammable aerosol. Pressurized container: may burst if heated.

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5.3. Special protective equipment and precautions for fire-fighters

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

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

6.1.2. For emergency responders

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

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Collect spillage.
Methods for cleaning up : Mechanically recover the product. 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. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing spray, vapors, fume. Avoid contact with skin and eyes.
Hygiene measures : 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

Storage conditions : Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Storage temperature : < 25 °C
Special rules on packaging : Keep only in original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ethylbenzene (100-41-4)		
ACGIH	Local name	Ethyl benzene
ACGIH	ACGIH TWA (ppm)	20 ppm
ACGIH	Remark (ACGIH)	URT irr; kidney dam (nephropathy)
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m ³)	435 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
2-methylpropan-1-ol, iso-butanol (78-83-1)		
ACGIH	Local name	Isobutanol
ACGIH	ACGIH TWA (ppm)	50 ppm
ACGIH	Remark (ACGIH)	Skin & eye irr

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2-methylpropan-1-ol, iso-butanol (78-83-1)		
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m ³)	300 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
1-butanol (71-36-3)		
ACGIH	Local name	n-Butanol
ACGIH	ACGIH TWA (ppm)	20 ppm
ACGIH	Remark (ACGIH)	Eye & URT irr
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m ³)	300 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
titanium(IV) oxide (13463-67-7)		
ACGIH	Local name	Titanium dioxide
ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
ACGIH	Remark (ACGIH)	LRT irr; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure)
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³
OSHA	Regulatory reference (US-OSHA)	OSHA
cyclohexane (110-82-7)		
ACGIH	Local name	Cyclohexane
ACGIH	ACGIH TWA (ppm)	100 ppm
ACGIH	Remark (ACGIH)	CNS impair
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m ³)	1050 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	300 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
methyl acetate (79-20-9)		
ACGIH	Local name	Methyl acetate
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	ACGIH STEL (ppm)	250 ppm
ACGIH	Remark (ACGIH)	eye & URT irr
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m ³)	610 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA

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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

Personal protective equipment:

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:

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 : Aerosol.
Color : Light gray
Odor : There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.
Mixture contains one or more component(s) which have the following odour:
Petroleum-like odour Sweet odour Aromatic odour Pleasant odour Odourless Irritating/pungent odour Alcohol odour Mild odour Ether-like odour Commercial/unpurified substance: irritating/pungent odour Fruity odour
Odor threshold : No data available
pH : No data available
Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available
Flash point : -41 °C
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : Extremely flammable aerosol.
Vapor pressure : No data available
Relative vapor density at 20 °C : No data available
Relative density : No data available
Specific gravity / density : 0.83 g/cm³
Solubility : insoluble in water. soluble in most organic solvents.
Log Pow : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available

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Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: Pressurized container: may burst if heated.
Oxidizing properties	: No data available

9.2. Other information

VOC content	: 721 g/l
MIR	: 1.55
Gas group	: Press. Gas (Liq.)

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable aerosol. Pressurized container: may burst if heated.

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

ethylbenzene (100-41-4)	
LD50 oral rat	3500 mg/kg (Rat, Male/female, Experimental value, Oral)
LD50 dermal rabbit	15432 mg/kg body weight (24 h, Rabbit, Male, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	17.8 mg/l (4 h, Rat, Male, Experimental value, Inhalation (vapours))
ATE US (oral)	3500 mg/kg body weight
ATE US (dermal)	15432 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	17.8 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h
2-methylpropan-1-ol, iso-butanol (78-83-1)	
LD50 oral rat	> 2830 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value)
LD50 dermal rabbit	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rabbit, Male, Experimental value)
LC50 inhalation rat (mg/l)	24.6 mg/l air (Other, 4 h, Rat, Male/female, Experimental value, Inhalation (vapours))
1-butanol (71-36-3)	
LD50 oral rat	2292 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Female, Experimental value, Oral)
LD50 dermal rabbit	3430 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value, Dermal)
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	3430 mg/kg body weight
titanium(IV) oxide (13463-67-7)	
LD50 oral rat	> 5000 mg/kg body weight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Female, Experimental value, Oral, 14 day(s))

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titanium(IV) oxide (13463-67-7)	
LC50 inhalation rat (mg/l)	> 6.82 mg/l (Other, 4 h, Rat, Male, Experimental value, Inhalation (dust), 14 day(s))

cyclohexane (110-82-7)	
LD50 oral rat	> 5000 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male/female, Experimental value, Oral)
LD50 dermal rabbit	> 2000 mg/kg body weight (Equivalent or similar to OECD 402, Rabbit, Male/female, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	> 32.88 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male/female, Experimental value)

methyl acetate (79-20-9)	
LD50 oral rat	6482 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral)
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male/female, Experimental value, Dermal)
ATE US (oral)	6482 mg/kg body weight

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.

ethylbenzene (100-41-4)	
IARC group	2B - Possibly carcinogenic to humans

titanium(IV) oxide (13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans

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

2-methylpropan-1-ol, iso-butanol (78-83-1)	
Specific target organ toxicity – single exposure	May cause respiratory irritation. May cause drowsiness or dizziness.

1-butanol (71-36-3)	
Specific target organ toxicity – single exposure	May cause respiratory irritation. May cause drowsiness or dizziness.

cyclohexane (110-82-7)	
Specific target organ toxicity – single exposure	May cause drowsiness or dizziness.

methyl acetate (79-20-9)	
Specific target organ toxicity – single exposure	May cause drowsiness or dizziness.

Specific target organ toxicity – repeated exposure	: Not classified
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ethylbenzene (100-41-4)	
Specific target organ toxicity – repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Serious damage to eyes.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Toxic to aquatic life with long lasting effects.
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ethylbenzene (100-41-4)	
LC50 fish 1	4.2 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, <i>Salmo gairdneri</i> , Semi-static system, Fresh water, Experimental value)
EC50 Daphnia 1	1.8 - 2.4 mg/l (US EPA, 48 h, <i>Daphnia magna</i> , Static system, Fresh water, Experimental value)
2-methylpropan-1-ol, iso-butanol (78-83-1)	
LC50 fish 1	1430 mg/l (Other, 96 h, <i>Pimephales promelas</i> , Flow-through system, Fresh water, Experimental value)
EC50 Daphnia 1	1100 mg/l (ASTM, 48 h, <i>Daphnia pulex</i> , Static system, Fresh water, Experimental value, Nominal concentration)
ErC50 (algae)	1799 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, <i>Pseudokirchneriella subcapitata</i> , Static system, Fresh water, Experimental value, GLP)
1-butanol (71-36-3)	
LC50 fish 1	1376 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, <i>Pimephales promelas</i> , Static system, Fresh water, Experimental value, GLP)
EC50 Daphnia 1	1328 mg/l (OECD 202: <i>Daphnia</i> sp. Acute Immobilisation Test, 48 h, <i>Daphnia magna</i> , Static system, Fresh water, Experimental value, GLP)
titanium(IV) oxide (13463-67-7)	
LC50 fish 1	> 100 mg/l (Equivalent or similar to OECD 203, 96 h, <i>Oncorhynchus mykiss</i> , Static system, Fresh water, Experimental value, Nominal concentration)
ErC50 (algae)	61 mg/l (EPA 600/9-78-018, 72 h, <i>Pseudokirchneriella subcapitata</i> , Static system, Fresh water, Experimental value, Nominal concentration)
cyclohexane (110-82-7)	
LC50 fish 1	4.53 mg/l (Equivalent or similar to OECD 203, 96 h, <i>Pimephales promelas</i> , Flow-through system, Fresh water, Experimental value, Measured concentration)
EC50 Daphnia 1	0.9 mg/l (Equivalent or similar to OECD 202, 48 h, <i>Daphnia magna</i> , Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 (algae)	9.317 mg/l (Equivalent or similar to OECD 201, 72 h, <i>Pseudokirchneriella subcapitata</i> , Experimental value, GLP)
methyl acetate (79-20-9)	
LC50 fish 1	250 - 350 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, <i>Brachydanio rerio</i> , Static system, Fresh water, Experimental value, GLP)
EC50 Daphnia 1	1026.7 mg/l (OECD 202: <i>Daphnia</i> sp. Acute Immobilisation Test, 48 h, <i>Daphnia magna</i> , Static system, Fresh water, Experimental value, GLP)

12.2. Persistence and degradability

ethylbenzene (100-41-4)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.44 g O ₂ /g substance (20d.)
Chemical oxygen demand (COD)	2.1 g O ₂ /g substance
ThOD	3.17 g O ₂ /g substance
2-methylpropan-1-ol, iso-butanol (78-83-1)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
1-butanol (71-36-3)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.1 - 1.92 g O ₂ /g substance
Chemical oxygen demand (COD)	2.46 g O ₂ /g substance
ThOD	2.59 g O ₂ /g substance
BOD (% of ThOD)	0.33 - 0.79
titanium(IV) oxide (13463-67-7)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable (inorganic)
Chemical oxygen demand (COD)	Not applicable (inorganic)

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titanium(IV) oxide (13463-67-7)	
ThOD	Not applicable (inorganic)
cyclohexane (110-82-7)	
Persistence and degradability	Non degradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.22 g O ₂ /g substance
ThOD	3.425 g O ₂ /g substance
methyl acetate (79-20-9)	
Persistence and degradability	Readily biodegradable in water. Inherently biodegradable.

12.3. Bioaccumulative potential

ethylbenzene (100-41-4)	
BCF fish 1	1 - 2.4 (Other, 6 week(s), Oncorhynchus kisutch, Flow-through system, Salt water, Experimental value)
Log Pow	3.6 (Experimental value, EU Method A.8: Partition Coefficient, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
2-methylpropan-1-ol, iso-butanol (78-83-1)	
Log Pow	1 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
1-butanol (71-36-3)	
BCF other aquatic organisms 1	3.16 (BCFWIN, Calculated value)
Log Pow	1 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
titanium(IV) oxide (13463-67-7)	
Bioaccumulative potential	Not bioaccumulative.
cyclohexane (110-82-7)	
BCF fish 1	167 (Pimephales promelas, QSAR)
Log Pow	3.44 (Experimental value, Other, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
methyl acetate (79-20-9)	
BCF fish 1	< 1 (Pisces, Literature study)
Log Pow	0.37 (Calculated, KOWWIN, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

ethylbenzene (100-41-4)	
Surface tension	0.071 N/m (23 °C, 0.0582 g/l, EU Method A.5: Surface tension)
Log Koc	2.71 (log Koc, PCKOCWIN v1.66, QSAR)
Ecology - soil	Low potential for adsorption in soil. Toxic to soil organisms.
2-methylpropan-1-ol, iso-butanol (78-83-1)	
Surface tension	0.0697 N/m (20 °C, 1 g/l, OECD 115: Surface Tension of Aqueous Solutions)
Log Koc	0.31 (log Koc, SRC PCKOCWIN v1.66, Calculated value)
Ecology - soil	Highly mobile in soil.
1-butanol (71-36-3)	
Surface tension	0.07 N/m (20 °C, 1 g/l, OECD 115: Surface Tension of Aqueous Solutions)
Log Koc	0.388 (log Koc, PCKOCWIN v1.66, Calculated value)
Ecology - soil	Highly mobile in soil. May be harmful to plant growth, blooming and fruit formation.
titanium(IV) oxide (13463-67-7)	
Ecology - soil	Low potential for mobility in soil.
cyclohexane (110-82-7)	
Surface tension	0.025 N/m (20 °C)
Log Koc	2.89 (log Koc, Other, QSAR)

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cyclohexane (110-82-7)	
Ecology - soil	Low potential for adsorption in soil.
methyl acetate (79-20-9)	
Surface tension	0.024 N/m (20 °C)
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)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal 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.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

- Transport document description : UN1950 Aerosols (flammable, (each not exceeding 1 L capacity)), 2.1
UN-No.(DOT) : UN1950
Proper Shipping Name (DOT) : Aerosols
flammable, (each not exceeding 1 L capacity)
Class (DOT) : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115
Hazard labels (DOT) : 2.1 - Flammable gas



- Dangerous for the environment : Yes
Marine pollutant : Yes



- DOT Packaging Non Bulk (49 CFR 173.xxx) : None
DOT Packaging Bulk (49 CFR 173.xxx) : None
DOT Special Provisions (49 CFR 172.102) : N82 - See 173.306 of this subchapter for classification criteria for flammable aerosols.
DOT Packaging Exceptions (49 CFR 173.xxx) : 306
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 75 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other : 25 - Shade from radiant heat, 87 - Stow "separated from" Class 1 (explosives) except Division 14, 126 - Segregation same as for Class 9, miscellaneous hazardous materials
Other information : No supplementary information available.

Transportation of Dangerous Goods

Not applicable

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Transport by sea

Transport document description (IMDG) : UN 1950 AEROSOLS, 2.1, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
UN-No. (IMDG) : 1950
Proper Shipping Name (IMDG) : AEROSOLS
Class (IMDG) : 2 - Gases
Limited quantities (IMDG) : SP277
Marine pollutant : Yes



Air transport

Transport document description (IATA) : UN 1950 Aerosols, flammable, 2.1, ENVIRONMENTALLY HAZARDOUS
UN-No. (IATA) : 1950
Proper Shipping Name (IATA) : Aerosols, flammable
Class (IATA) : 2

SECTION 15: Regulatory information

15.1. US Federal regulations

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.

ethylbenzene	CAS-No. 100-41-4	< 5%
1-butanol	CAS-No. 71-36-3	5 - 23%
cyclohexane	CAS-No. 110-82-7	< 5%

ethylbenzene (100-41-4)

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

Listed on EPA Hazardous Air Pollutant (HAPS)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ 1000 lb

2-methylpropan-1-ol, iso-butanol (78-83-1)

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

CERCLA RQ 5000 lb

1-butanol (71-36-3)

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

CERCLA RQ 5000 lb

titanium(IV) oxide (13463-67-7)

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

cyclohexane (110-82-7)

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

CERCLA RQ 1000 lb

methyl acetate (79-20-9)

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

15.2. International regulations

CANADA

ethylbenzene (100-41-4)

Listed on the Canadian DSL (Domestic Substances List)

2-methylpropan-1-ol, iso-butanol (78-83-1)

Listed on the Canadian DSL (Domestic Substances List)

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1-butanol (71-36-3)
Listed on the Canadian DSL (Domestic Substances List)
titanium(IV) oxide (13463-67-7)
Listed on the Canadian DSL (Domestic Substances List)
cyclohexane (110-82-7)
Listed on the Canadian DSL (Domestic Substances List)
methyl acetate (79-20-9)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

ethylbenzene (100-41-4)
Listed on IARC (International Agency for Research on Cancer)
titanium(IV) oxide (13463-67-7)
Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

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U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

ethylbenzene (100-41-4)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No	54 µg/day (inhalation); 41 µg/day (oral)	

Component	State or local regulations
ethylbenzene(100-41-4)	
2-methylpropan-1-ol, iso-butanol(78-83-1)	
1-butanol(71-36-3)	
titanium(IV) oxide(13463-67-7)	
cyclohexane(110-82-7)	
methyl acetate(79-20-9)	

SECTION 16: Other information

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Full text of H-phrases:

H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful 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
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard

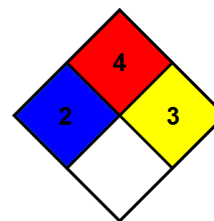
: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard

: 4 - Materials that rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and burn readily.

NFPA reactivity

: 3 - Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction but that require a strong initiating source or must be heated under confinement before initiation.



SDS US GHS (GHS HazCom2012) - U-POL

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