

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations SDS ID: RPEDCAL-US-SDS Issue date: 9/2/2020 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture

Trade name : RAPTOR 1K PRO ENAMEL DIAMOND CLEAR AEROSOL

Product code : UP4845 UP Number : UP4845

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Coatings and paints, thinners, paint removers

Recommended use : Topcoat

1.3. Supplier

Supplier

U-POL US Inc Inc. 108 Commerce Way

Easton, Pennsylvania, PA 18083

United States

T 1-800-340-7824 - F 1-800-787-5150

technicalsupport@u-pol.com - www.u-pol.com

1.4. Emergency telephone number

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

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable aerosol Category 1
Gases under pressure Liquefied gas
Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 1

Skin sensitization, Category 1

Specific target organ toxicity — Single exposure, Category 3, Narcosis

Extremely flammable aerosol

Contains gas under pressure; may explode if heated

Causes skin irritation

Causes serious eye damage

May cause an allergic skin reaction

May cause drowsiness or dizziness

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)



: Danger







Signal word (GHS US)

Hazard statements (GHS US) : Extremely flammable aerosol

Contains gas under pressure; may explode if heated

Causes skin irritation

May cause an allergic skin reaction

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Precautionary statements (GHS US)

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Causes serious eye damage

May cause drowsiness or dizziness

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

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 vapors, fume, spray. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area.

Contaminated work clothing must not be allowed out of the workplace.

Contaminated work clothing must not be allowed out of the workp

Wear eye protection, protective clothing, protective gloves.

If on skin: Wash with plenty of water.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing. Call a doctor if you feel unwell.

If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

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 which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

13.35% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapors))

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
ethyl methyl ketone	CAS-No.: 78-93-3	5 – 23	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
n-butyl acetate	CAS-No.: 123-86-4	5 – 23	Flam. Liq. 3, H226 STOT SE 3, H336
cyclohexanone	CAS-No.: 108-94-1	5 – 23	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Dam. 1, H318

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Name	Product identifier	%	GHS US classification
methyl acetate	CAS-No.: 79-20-9	5 – 23	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
reaction mass of α -3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl- ω -hydroxypoly(oxyethylene) and α -3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl- ω -3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene)	CAS-No.: 104810-48- 2	< 5	Skin Sens. 1A, H317 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 general : Call a poison center/doctor/physician if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water. Take off 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. 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. May cause an allergic skin reaction.

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. Hazardous decomposition products in case of fire : Toxic fumes may be released.

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

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing vapors,

spray, fume. Avoid contact with skin and eyes.

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6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer

to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.

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. Use only outdoors or in a well-ventilated area. Avoid breathing vapors, spray, fume. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures : 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.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Protect from sunlight. Store in a well-ventilated place. Do not expose to temperatures exceeding

50 °C/ 122 °F. Store locked up. Keep container tightly closed. Keep cool.

Storage temperature : $< 25 \, ^{\circ}\text{C}$

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

RAPTOR 1K PRO ENAMEL DIAMOND CLEAR AEROSOL

No additional information available

methyl acetate (79-20-9)

Local name

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA [ppm]	200 ppm
ACGIH OEL STEL [ppm]	250 ppm
Remark (ACGIH)	TLV® Basis: Headache; dizziness; nausea; eye dam (degeneration of ganglion cells in the retina)
Regulatory reference	ACGIH 2021

Methyl acetate

USA - OSHA - Occupational Exposure Limits

Local name	Methyl acetate
OSHA PEL (TWA) [1]	610 mg/m³

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methyl acetate (79-20-9)		
OSHA PEL (TWA) [2]	200 ppm	
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1	
reaction mass of α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-hydroxypoly(oxyethylene) and α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene) (104810-48-2) No additional information available		
ethyl methyl ketone (78-93-3)		
USA - ACGIH - Occupational Exposure Limits		
Local name	Methyl ethyl ketone (MEK)	
ACGIH OEL TWA [ppm]	200 ppm	
ACGIH OEL STEL [ppm]	300 ppm	
Remark (ACGIH)	TLV® Basis: URT irr; CNS & PNS impair. Notations: BEI	
Regulatory reference	ACGIH 2021	
USA - ACGIH - Biological Exposure Indices		
Local name	METHYL ETHYL KETONE	
BEI (BLV)	2 mg/l Parameter: Methyl ethyl ketone - Medium: urine - Sampling time: End of shift - Notations: Ns	
Regulatory reference	ACGIH 2021	
USA - OSHA - Occupational Exposure Limits		
Local name	2-Butanone (Methyl ethyl ketone)	
OSHA PEL (TWA) [1]	590 mg/m³	
OSHA PEL (TWA) [2]	200 ppm	
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1	
n-butyl acetate (123-86-4)		
USA - ACGIH - Occupational Exposure Limits		
Local name	n-Butyl acetate	
ACGIH OEL TWA [ppm]	50 ppm	
ACGIH OEL STEL [ppm]	150 ppm	
Remark (ACGIH)	TLV® Basis: Eye & URT irr	
Regulatory reference	ACGIH 2021	
USA - OSHA - Occupational Exposure Limits		
Local name	n-Butyl-acetate	
OSHA PEL (TWA) [1]	710 mg/m³	
OSHA PEL (TWA) [2]	150 ppm	
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1	
cyclohexanone (108-94-1)		
USA - ACGIH - Occupational Exposure Limits		
Local name	Cyclohexanone	

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cyclohexanone (108-94-1)			
ACGIH OEL TWA [ppm]	20 ppm		
ACGIH OEL STEL [ppm]	50 ppm		
Remark (ACGIH)	TLV® Basis: Eye & URT irr. Notations: Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)		
Regulatory reference	ACGIH 2021		
USA - ACGIH - Biological Exposure Indices			
Local name	CYCLOHEXANONE		
BEI (BLV)	80 mg/l Parameter: 1,2-Cyclohexanediol (with hydrolysis) - Medium: urine - Sampling time: End of shift at end of workweek - Notations: Ns, Sq 8 mg/l Parameter: Cyclohexanol (with hydrolysis) - Medium: urine - Sampling time: End of shift - Notations: Ns, Sq		
Regulatory reference	ACGIH 2021		
USA - OSHA - Occupational Exposure Limits	USA - OSHA - Occupational Exposure Limits		
Local name	Cyclohexanone		
OSHA PEL (TWA) [1]	200 mg/m³		
OSHA PEL (TWA) [2]	50 ppm		
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-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):







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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid Appearance aerosol. Color Colorless Odor characteristic No data available Odor threshold рΗ No data available Melting point No data available 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 Density 0.931 a/cm³ 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 No data available Viscosity, kinematic Viscosity, dynamic No data available **Explosion limits** No data available Explosive properties No data available Oxidizing properties No data available

9.2. Other information

VOC content : 676 g/l

As Packaged Regulatory VOC : 772 g/l (6.4 lb/gal) As Packaged Actual VOC : 708 g/l (5.9 lb/gal) As Applied Regulatory VOC : 772 g/l (6.4 lb/gal) As Applied Actual VOC 708 g/l (5.9 lb/gal) Percent Solids 15.61 wt% Percent Solids 11.88 vol % Volatiles 84.4 wt% 0 wt% Water Content Water Content 0 vol % % EPA HAPS 13.4 wt% Maximum Incremental Reactivity (MIR) : 0.79

MIR EPA Aerosol Category : Clear Coating - CCP 1.5

MIR CARB Aerosol Category : Clear Coating - General Coatings - CCP 0.85

Bay Area Aerosol Category : General Coatings - Clear Coating - max. 67% VOC

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable aerosol.

10.2. Chemical stability

Stable under normal conditions.

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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

ATE US (oral)

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

Acute toxicity (innaiation)	Not classified	
RAPTOR 1K PRO ENAMEL DIAMOND CLEAR AEROSOL		
Unknown acute toxicity (GHS US)	13.35% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapors))	
methyl acetate (79-20-9)		
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 US (oral)	6482 mg/kg body weight	
ATE US (vapors)	49 mg/l/4h	
ATE US (dust, mist)	49 mg/l/4h	
reaction mass of α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-hydroxypoly(oxyethylene) and α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene) (104810-48-2)		
LD50 oral rat	> 5000 mg/kg (OECD Guideline No. 401 (equivalent to Annex V), limit test, rat, male/female)	
LD50 dermal rat	> 2000 mg/kg (OECD Guideline No. 402 (equivalent to Annex V), limit test, rat, male/female)	
LC50 Inhalation - Rat	5800 mg/l (OECD Guideline 403, 14d, rat)	
ATE US (vapors)	5800 mg/l/4h	
ATE US (dust, mist)	5800 mg/l/4h	
ethyl methyl ketone (78-93-3)		
LD50 oral rat	2193 mg/kg body weight (Equivalent or similar to OECD 423, Rat, Male / female, Experimental value, Oral, 14 day(s))	
LD50 dermal rabbit	> 10 ml/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))	

2193 mg/kg body weight

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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 214112 mg/kg body weight (Equivalent or similar to OECD 402, Rabbit, Male / female, Experimental value, Dermal, 14 day(s)) LC50 Inhalation - Rat 234 mg/l (DECD 403; Acute Inhalation Toxicity, 4 h, Rat, Male / female, Inhalation (mixture of vapour and aerose)), 14 day(s)) LC50 Inhalation - Rat (ppm) 390 ppm/4h ATE US (grase) 390 ppm/4h ATE US (gases) 390 ppm/4h ATE US (gases) 390 ppm/4h ATE US (dust, mist) 234 mg/V4h ATE US (dust, mist) 234 mg/V4h ATE US (dust, mist) 249 mg/V4h ATE US (sat oral 1890 – 2650 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 oral rat 1990 – 2650 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 dermal rabbit 1100 mg/kg (BRENNTAG test) LD50 inhalation - Rat 296 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 dermal rabbit 1100 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 dermal rabbit 1100 mg/kg (BRENNTAG test) LD50 inhalation - Rat 296 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 dermal rabbit 1100 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 dermal rabbit 1100 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 dermal rabbit 1100 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 dermal rabbit 1100 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 dermal rabbit 1100 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 dermal rabbit 1100 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 dermal rabbit 1100 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 dermal rabbit 1100 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 dermal rabbit 1100 mg/kg body weight (n-butyl acetate (123-86-4)		
Experimental value, Dermal, 14 day(s)	LD50 oral rat		
Vapour and aerosel), 14 day(s)	LD50 dermal rabbit		
ATE US (oral) 10760 mg/kg body weight ATE US (gases) 390 pmV/4h ATE US (vapors) 23.4 mg/l/4h ATE US (dust. mist) 23.4 mg/l/4h ATE US (dust. mist) 23.4 mg/l/4h ATE US (dust. mist) 23.4 mg/l/4h Cyclobexanone (108-94-1) LD50 oral rat 1890 ~ 2650 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) LD50 dernal rabbit 1100 mg/kg (BRENNTAG test) LD50 dernal rabbit 1100 mg/kg (BRENNTAG test) LD50 dernal rabbit 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) LD50 dernal rabbit 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) LD50 dernal rabbit 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) LD50 dernal rabbit 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (BASF test, Rat. Experimental value, Oral, 7 day(s)) ATE US (dermal) 1100 mg/kg body weight (B	LC50 Inhalation - Rat		
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LD50 oral rat 1890 – 2850 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s)) LD50 dermal rabbit 1100 mg/kg (BRENNTAG test) LC50 Inhalation - Rat > 6.2 mg/l air Animal: rat ATE US (oral) 1890 mg/kg body weight ATE US (dermal) 1100 mg/kg body weight ATE US (gases) 4500 ppmV/4h ATE US (vapors) 11 mg/l/4h ATE US (dust, mist) 1.5 mg/l/4h ATE US (dust, mist) 1.5 mg/l/4h ATE US (dust, mist) Skin corrosion/irritation Scincus eye damage/irritation : Causes skin irritation. Serious eye damage, Respiratory or skin sensitization Gem cell mutagenicity : Not classified carcinogenicity : Not classified cyclohexanone (108-94-1) IARC group 3 - Not classified STOT-single exposure May cause drowsiness or dizziness. methyl acetate (79-20-9) STOT-single exposure May cause drowsiness or dizziness. **Dot-single exposure** **Dot-single exposure** May cause drowsiness or dizziness. **Dot-single exposure** **Dot-single exposure** **May cause drowsiness or dizziness. **Dot-single exposure** **May c			
LC50 Inhalation - Rat ATE US (oral) 1890 mg/kg body weight ATE US (dermal) 1100 mg/kg body weight ATE US (gases) 4500 ppmV/4h ATE US (vapors) 11 mg/l/4h ATE US (dust, mist) 1.5 mg/l/4h Skin corrosion/irritation 2. causes skin irritation. Serious eye damage/irritation 3. May cause an allergic skin reaction. Germ cell mutagenicity 2. Not classified Coclohexanone (108-94-1) IARC group 3. Not classified StoT-single exposure May cause drowsiness or dizziness. methyl acetate (79-20-9) STOT-single exposure May cause drowsiness or dizziness. methyl ketone (78-93-3) STOT-single exposure May cause drowsiness or dizziness. mbutyl acetate (123-86-4) STOT-single exposure May cause drowsiness or dizziness. mbutyl acetate (123-86-4) STOT-single exposure May cause drowsiness or dizziness. n-butyl acetate (79-20-9) LOAEC (inhalation,rat,vapor,90 days) 2000 mg/l	,	1890 – 2650 mg/kg body weight (BASF test, Rat, Experimental value, Oral, 7 day(s))	
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Reproductive toxicity : Not classified : May cause drowsiness or dizziness. May cause drowsiness or dizziness	cyclohexanone (108-94-1)		
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methyl acetate (79-20-9) STOT-single exposure May cause drowsiness or dizziness. ethyl methyl ketone (78-93-3) STOT-single exposure May cause drowsiness or dizziness. n-butyl acetate (123-86-4) STOT-single exposure May cause drowsiness or dizziness. STOT-repeated exposure : Not classified methyl acetate (79-20-9) LOAEC (inhalation,rat,vapor,90 days) 2000 mg/l	Reproductive toxicity	: Not classified	
STOT-single exposure May cause drowsiness or dizziness. ethyl methyl ketone (78-93-3) STOT-single exposure May cause drowsiness or dizziness. n-butyl acetate (123-86-4) STOT-single exposure May cause drowsiness or dizziness. STOT-repeated exposure : Not classified methyl acetate (79-20-9) LOAEC (inhalation,rat,vapor,90 days) 2000 mg/l	STOT-single exposure	: May cause drowsiness or dizziness.	
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STOT-single exposure May cause drowsiness or dizziness. n-butyl acetate (123-86-4) STOT-single exposure May cause drowsiness or dizziness. STOT-repeated exposure : Not classified methyl acetate (79-20-9) LOAEC (inhalation,rat,vapor,90 days) 2000 mg/l	STOT-single exposure	May cause drowsiness or dizziness.	
n-butyl acetate (123-86-4) STOT-single exposure May cause drowsiness or dizziness. STOT-repeated exposure : Not classified methyl acetate (79-20-9) LOAEC (inhalation,rat,vapor,90 days) 2000 mg/l	ethyl methyl ketone (78-93-3)		
STOT-single exposure May cause drowsiness or dizziness. STOT-repeated exposure : Not classified methyl acetate (79-20-9) LOAEC (inhalation,rat,vapor,90 days) 2000 mg/l	STOT-single exposure	May cause drowsiness or dizziness.	
STOT-repeated exposure : Not classified methyl acetate (79-20-9) LOAEC (inhalation,rat,vapor,90 days) 2000 mg/l	n-butyl acetate (123-86-4)		
methyl acetate (79-20-9) LOAEC (inhalation,rat,vapor,90 days) 2000 mg/l	STOT-single exposure	May cause drowsiness or dizziness.	
LOAEC (inhalation,rat,vapor,90 days) 2000 mg/l	STOT-repeated exposure	: Not classified	
	methyl acetate (79-20-9)		
NOAEC (inhalation,rat,vapor,90 days) 1057 mg/m³	LOAEC (inhalation,rat,vapor,90 days)	2000 mg/l	
	NOAEC (inhalation,rat,vapor,90 days)	1057 mg/m³	

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cyclohexanone (108-94-1)	
NOAEL (oral,rat,90 days)	143 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Aspiration hazard Viscosity, kinematic	Not classified No data available
Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after skin contact Symptoms/effects after eye contact	: Irritation. May cause an allergic skin reaction.: Serious damage to eyes.

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.	
methyl acetate (79-20-9)		
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	
	- /I)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-hydroxypoly(oxyethylene) and α-3-(3- /phenyl)propionyl-ω-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4- ene) (104810-48-2)	
LC50 - Fish [1]	2.8 mg/l (96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Nominal concentration)	
EC50 - Crustacea [1]	4 mg/l (48 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration)	
ErC50 algae	> 100 mg/l (72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)	
ethyl methyl ketone (78-93-3)		
LC50 - Fish [1]	2993 mg/l Test organisms (species): Pimephales promelas	
EC50 - Crustacea [1]	308 mg/l Test organisms (species): Daphnia magna	
ErC50 algae	1972 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)	
n-butyl acetate (123-86-4)		
LC50 - Fish [1]	18 mg/l Test organisms (species): Pimephales promelas	
EC50 - Crustacea [1]	44 mg/l Test organisms (species): Daphnia sp.	
LC50 - Fish [2]	62 mg/l (Leuciscus idus, static system)	
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	
cyclohexanone (108-94-1)		
LC50 - Fish [1]	527 – 732 mg/l Test organisms (species): Pimephales promelas	
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna	

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cyclohexanone (108-94-1)	
ErC50 algae > 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, system, Fresh water, Read-across, GLP)	

12.2. Persistence and degradability

methyl acetate (79-20-9)			
Persistence and degradability	Readily biodegradable in water.		
ethyl methyl ketone (78-93-3)			
Persistence and degradability	Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.		
Biochemical oxygen demand (BOD)	2.03 g O ₂ /g substance		
Chemical oxygen demand (COD)	2.31 g O ₂ /g substance		
ThOD	2.44 g O ₂ /g substance		
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		
cyclohexanone (108-94-1)	cyclohexanone (108-94-1)		
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.		
Biochemical oxygen demand (BOD)	1.232 g O ₂ /g substance		
Chemical oxygen demand (COD)	2.605 g O ₂ /g substance		
ThOD	2.605 g O ₂ /g substance		

12.3. Bioaccumulative potential

methyl acetate (79-20-9)		
BCF - Fish [1] < 1 (Pisces, Literature study)		
Partition coefficient n-octanol/water (Log Pow)	0.18 (Experimental value, 20 °C)	
Bioaccumulative potential Low potential for bioaccumulation (Log Kow < 4).		
reaction mass of α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-hydroxypoly(oxyethylene) and α-3-(3-		

reaction mass of α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-hydroxypoly(oxyethylene) and α-3-(3 (2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene) (104810-48-2)

BCF - Fish [1]	2658 – 3430 (502 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value)	
Partition coefficient n-octanol/water (Log Pow)	4.6 (Experimental value, Equivalent or similar to OECD 117, 25 °C)	
ethyl methyl ketone (78-93-3)		
Partition coefficient n-octanol/water (Log Pow)	0.3 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 40 °C)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).	

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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 °C)		
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).	
cyclohexanone (108-94-1)		
Partition coefficient n-octanol/water (Log Pow)	0.86 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)	
Bioaccumulative potential Low potential for bioaccumulation (Log Kow < 4).		

12.4. Mobility in soil

methyl acetate (79-20-9)			
Surface tension	24 mN/m (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)		
Ecology - soil	Highly mobile in soil.		
ethyl methyl ketone (78-93-3)			
Surface tension	No data available in the literature		
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.654 – 1.281 (log Koc, SRC PCKOCWIN v2.0, Calculated value)		
Ecology - soil	Highly mobile in soil. Slightly harmful to plants.		
n-butyl acetate (123-86-4)			
Surface tension	61.3 mN/m (20 °C, 0.1 %, OECD 115: Surface Tension of Aqueous Solutions)		
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.268 – 1.844 (log Koc, SRC PCKOCWIN v2.0, Calculated value)		
Ecology - soil	Highly mobile in soil.		
cyclohexanone (108-94-1)			
Surface tension	No data available in the literature		
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.18 (log Koc, SRC PCKOCWIN v1.66, Calculated value)		
Ecology - soil	Highly mobile in soil.		

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

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

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SECTION 14: Transport information

14.1. UN number

DOT NA No : UN1950 UN-No. (TDG) : UN1950 UN-No. (IMDG) : 1950 UN-No. (IATA) : 1950

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Aerosols
Proper Shipping Name (TDG) : AEROSOLS
Proper Shipping Name (IMDG) : AEROSOLS
Proper Shipping Name (IATA) : Aerosols, flammable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 2.1 Hazard labels (DOT) : 2.1

TDG

Transport hazard class(es) (TDG) : 2.1 Hazard labels (TDG) : 2.1

IMDG

Transport hazard class(es) (IMDG) : 2.1 Hazard labels (IMDG) : 2.1



IATA

Transport hazard class(es) (IATA) : 2.1 Hazard labels (IATA) : 2.1



14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (TDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN1950

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

: 150 ka

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DOT Packaging Non Bulk (49 CFR 173.xxx) : None
DOT Packaging Bulk (49 CFR 173.xxx) : None
DOT Quantity Limitations Passenger aircraft/rail (49 : 75 kg

CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49

CFR 175.75)

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 - Protected from sources of heat,87 - Stow "separated from" Class 1 (explosives) except

Division 14,126 - Segregation same as for Class 9, miscellaneous hazardous materials

TDG

UN-No. (TDG) : UN1950

TDG Special Provisions : 80 - Despite section 1.17 of Part 1 (Coming into Force, Repeal, Interpretation, General

Provisions and Special Cases), a person must not offer for transport or transport these dangerous goods unless they are in a means of containment that is in compliance with the requirements for transporting gases in Part 5 (Means of Containment),107 - (1) These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of UN1950, AEROSOLS, and UN2037, GAS CARTRIDGES, that contain dangerous goods included in Class 2.1 or Class 2.2 and that are transported on a road vehicle, a railway vehicle or a vessel on a domestic voyage, if the agreesols or gas cartridges have a

railway vehicle or a vessel on a domestic voyage, if the aerosols or gas cartridges have a

capacity less than or equal to 50 mL.

(2) Subsection (1) does not apply to self-defence spray.

Explosive Limit and Limited Quantity Index : 1 L
Excepted quantities (TDG) : E0
Passenger Carrying Road Vehicle or Passenger : 75 L

Carrying Railway Vehicle Index

Emergency Response Guide (ERG) Number : 126

IMDG

Special provision (IMDG) : 63, 190, 277, 327, 344, 381, 959

Packing instructions (IMDG) : P207, LP200 Packing provisions (IMDG) : PP87, L2

EmS-No. (Fire) : F-D - FIRE SCHEDULE Delta - FLAMMABLE GASES

EmS-No. (Spillage) : S-U - SPILLAGE SCHEDULE Uniform - GASES (FLAMMABLE, TOXIC OR CORROSIVE)

Stowage category (IMDG) : None

IATA

PCA Excepted quantities (IATA) : E0
PCA Limited quantities (IATA) : Y203
PCA limited quantity max net quantity (IATA) : 30kgG
PCA packing instructions (IATA) : 203
PCA max net quantity (IATA) : 75kg
CAO packing instructions (IATA) : 203
CAO max net quantity (IATA) : 150kg

Special provision (IATA) : A145, A167, A802

ERG code (IATA) : 10L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

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Name	CAS-No.	Listing	Commercial status	Flags
methyl acetate	79-20-9	Present	Active	
ethyl methyl ketone	78-93-3	Present	Active	
n-butyl acetate	123-86-4	Present	Active	
cyclohexanone	108-94-1	Present	Active	

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

ethyl methyl ketone (78-93-3)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb

n-butyl acetate (123-86-4)	
CERCLA RQ	5000 lb

cyclohexanone (108-94-1)	
CERCLA RQ	5000 lb

15.2. International regulations

CANADA

methyl acetate (79-20-9)

Listed on the Canadian DSL (Domestic Substances List)

ethyl methyl ketone (78-93-3)

Listed on the Canadian DSL (Domestic Substances List)

n-butyl acetate (123-86-4)

Listed on the Canadian DSL (Domestic Substances List)

cyclohexanone (108-94-1)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

n-butyl acetate (123-86-4)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

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15.3. US State regulations



This product can expose you to ethylbenzene, which is known to the State of California to cause cancer, and toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
ethyl methyl ketone(78-93-3)	U.S Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List
methyl acetate(79-20-9)	U.S Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S New Jersey - Right to Know Hazardous Substance List; U.S. – New York City – Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List
n-butyl acetate(123-86-4)	U.S Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List
cyclohexanone(108-94-1)	U.S Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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NFPA health hazard

: 2 - Materials that, under emergency conditions, can cause temporary

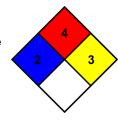
incapacitation or residual injury.

NFPA fire hazard

NFPA reactivity

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

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.



Indication of changes:			
Section	Changed item	Change	Comments
	MIR	Modified	
	Supersedes	Modified	
	Revision date	Modified	
	Precautionary statements (GHS US)	Modified	
9	Appearance	Added	
9	Density	Added	
9	Flash point	Modified	

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For professional use only.

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