

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Product name : AR4315HP Cream A

1.2. Recommended use and restrictions on use

Recommended use : Acrylic resin
 Restrictions on use : Product for industrial use only

1.3. Supplier

ResinLab, LLC
 N109 W13300 Ellsworth Drive
 Germantown, WI 53022 - United States
 T 1-877-259-1669
msds@resinlab.com - www.resinlab.com

1.4. Emergency telephone number

Emergency number : CHEMTREC:1-800-424-9300 (USA); +1 703-527-3887 (International)

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
Skin corrosion/irritation Category 1A	H314	Causes severe skin burns and eye damage
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation
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. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) :
 H225 - Highly flammable liquid and vapor
 H314 - Causes severe skin burns and eye damage
 H317 - May cause an allergic skin reaction
 H335 - May cause respiratory irritation
 H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS US) :
 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.
 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 hands, forearms and face 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.
 P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
 P302+P352 - If on skin: Wash with plenty of 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.
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

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lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a poison center or doctor.
P312 - Call a poison center or doctor if you feel unwell.
P314 - Get medical advice/attention if you feel unwell.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use media other than water to extinguish.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards 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	%
Methyl methacrylate	(CAS-No.) 80-62-6	25-60
Methacrylic acid	(CAS-No.) 79-41-4	5-10
Maleic acid	(CAS-No.) 110-16-7	<5
Butylated hydroxytoluene	(CAS-No.) 128-37-0	<5
Urethane methacrylate oligomer - Trade secret CAS	(CAS-No.) Trade secret	<5
Cumene hydroperoxide	(CAS-No.) 80-15-9	1-2
Tosyl chloride	(CAS-No.) 98-59-9	0.5-1

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 physician immediately.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
- First-aid measures after skin contact : Wash skin with plenty of water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : Immediately rinse with plenty of water (for at least 15 minutes). Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. Rinse cautiously with water for several minutes. Call a physician immediately.
- First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after inhalation : May cause respiratory irritation.
- Symptoms/effects after skin contact : Burns. May cause an allergic skin reaction.
- Symptoms/effects after eye contact : Serious damage to eyes.
- Symptoms/effects after ingestion : Burns.

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.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

- Fire hazard : Highly flammable liquid and vapor.

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Explosion hazard	: No direct explosion hazard. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Reactivity in case of fire	: May polymerize.
Hazardous decomposition products in case of fire	: Toxic fumes may be released, Carbon oxides (CO, CO ₂), Hydrogen cyanide, Isocyanate containing vapors, Nitrogen oxides

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
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

General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area. 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. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.
Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. 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 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

Technical measures	: Ground/bond container and receiving equipment.
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Packaging materials	: Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Methyl methacrylate (80-62-6)		
ACGIH	Local name	Methyl methacrylate
ACGIH	ACGIH OEL TWA	50 ppm
ACGIH	ACGIH OEL STEL	100 ppm
ACGIH	Remark (ACGIH)	TLV® Basis: URT & eye irr; body weight eff; pulm edema. Notations: DSEN; A4 (Not classifiable as a Human Carcinogen)
ACGIH	Regulatory reference	ACGIH 2023
OSHA	OSHA PEL TWA	410 mg/m ³
OSHA	OSHA PEL TWA	100 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Methacrylic acid (79-41-4)		
ACGIH	Local name	Methacrylic acid
ACGIH	ACGIH OEL TWA	20 ppm
ACGIH	Remark (ACGIH)	TLV® Basis: Skin & eye irr
ACGIH	Regulatory reference	ACGIH 2023
Maleic acid (110-16-7)		
Not applicable		
Cumene hydroperoxide (80-15-9)		
Not applicable		
Tosyl chloride (98-59-9)		
Not applicable		
Butylated hydroxytoluene (128-37-0)		
ACGIH	Local name	Butylated hydroxytoluene
ACGIH	ACGIH OEL TWA	2 mg/m ³ (Inhalable fraction and vapor)
ACGIH	Remark (ACGIH)	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
ACGIH	Regulatory reference	ACGIH 2023
Urethane methacrylate oligomer - Trade secret CAS (Trade secret)		
Not applicable		

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station, ventilate curing ovens to prevent emissions in the workplace.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:

Protective gloves

Eye protection:

Safety glasses with side shields

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Cream
Odor	: Mild acrylic odor
Odor threshold	: No data available
pH	: 3 – 3.5
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 101 °C
Flash point	: 10.5 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not applicable.
Vapor pressure	: 29 mm Hg
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Density	: 1.03 g/cm ³
Solubility	: insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: 2.1 – 12.5 vol % Lower explosion limit: 2.1 vol % Upper explosion limit: 12.5 vol %
Explosive properties	: No data available
Oxidizing properties	: No data available
VOC content	< 20 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapor. The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization may occur. Avoid Excessive aging, excessive heat, and inhibitor depletion.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Reducing agents. Amines. Bases (Alkalis). Oxidizing agent. Acids. Ultraviolet radiation.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂). Hydrogen cyanide. Nitrogen oxides. Isocyanates.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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

Methyl methacrylate (80-62-6)	
LD50 oral rat	9400 mg/kg body weight (Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	> 5000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	29.8 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours), 1 day(s))
ATE US (oral)	9400 mg/kg body weight

Methacrylic acid (79-41-4)	
LD50 oral rat	1320 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral)
LD50 dermal rabbit	500 – 1000 mg/kg body weight (Rabbit, Experimental value, Dermal)
LC50 Inhalation - Rat	7.1 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (mixture of vapour and aerosol), 14 day(s))
ATE US (oral)	1320 mg/kg body weight
ATE US (dermal)	500 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

Maleic acid (110-16-7)	
LD50 oral rat	708 mg/kg body weight (Rat, Experimental value, Oral)
LD50 dermal rabbit	1560 mg/kg body weight (Rabbit, Experimental value, Skin)
ATE US (oral)	708 mg/kg body weight
ATE US (dermal)	1560 mg/kg body weight

Cumene hydroperoxide (80-15-9)	
LD50 oral rat	382 mg/kg (Rat, Male, Experimental value, Oral)
LD50 dermal rabbit	134 mg/kg body weight (24 h, Rabbit, Male, Weight of evidence, Dermal)
LC50 Inhalation - Rat	1.37 mg/l (4 h, Rat, Male, Experimental value, Converted value, Inhalation (vapours))
LC50 Inhalation - Rat [ppm]	220 ppm Animal: rat, Animal sex: male, Remarks on results: other:
ATE US (oral)	382 mg/kg body weight
ATE US (dermal)	134 mg/kg body weight
ATE US (gases)	220 ppmV/4h
ATE US (vapors)	1.39 mg/l/4h
ATE US (dust, mist)	1.39 mg/l/4h

Tosyl chloride (98-59-9)	
LD50 oral rat	4680 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 5010 mg/kg body weight (24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
ATE US (oral)	4680 mg/kg body weight

Butylated hydroxytoluene (128-37-0)	
LD50 oral rat	> 6000 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, 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, 14 day(s))

Skin corrosion/irritation	: Causes severe skin burns. pH: 3 – 3.5
Serious eye damage/irritation	: Assumed to cause serious eye damage pH: 3 – 3.5
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

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Methyl methacrylate (80-62-6)	
IARC group	3 - Not classifiable

Butylated hydroxytoluene (128-37-0)	
NOAEL (chronic,oral,animal/male,2 years)	25 mg/kg body weight Animal: rat, Animal sex: male, Remarks on results: other:Effect type: toxicity (migrated information)
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified
STOT-single exposure : May cause respiratory irritation.

Methyl methacrylate (80-62-6)	
STOT-single exposure	May cause respiratory irritation.

Methacrylic acid (79-41-4)	
STOT-single exposure	May cause respiratory irritation.

Maleic acid (110-16-7)	
STOT-single exposure	May cause respiratory irritation.

Urethane methacrylate oligomer - Trade secret CAS (Trade secret)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Methacrylic acid (79-41-4)	
LOAEC (inhalation, rat, gas, 90 days)	350 ppm Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

Cumene hydroperoxide (80-15-9)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Butylated hydroxytoluene (128-37-0)	
LOAEL (oral, rat, 90 days)	100 mg/kg body weight Animal: rat, Animal sex: male
NOAEL (oral, rat, 90 days)	25 mg/kg body weight Animal: rat, Animal sex: male
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified
Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : Burns. May cause an allergic skin reaction.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : Burns.

SECTION 12: Ecological information

12.1. Toxicity

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

Methyl methacrylate (80-62-6)	
LC50 - Fish [1]	> 100 mg/l (Pisces, Literature study)
EC50 - Crustacea [1]	69 mg/l (EPA OTS 797.1300, 48 h, Daphnia magna, Flow-through system, Fresh water, Experimental value, Locomotor effect)
LOEC (chronic)	68 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	37 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	9.4 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '35 d'

Methacrylic acid (79-41-4)	
LC50 - Fish [1]	85 mg/l (EPA OTS 797.1400, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	> 130 mg/l (EPA OTS 797.1300, 48 h, Daphnia magna, Flow-through system, Fresh water, Experimental value, Lethal)

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Methacrylic acid (79-41-4)	
ErC50 algae	45 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
NOEC chronic fish	10 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '35 d'
Maleic acid (110-16-7)	
LC50 - Fish [1]	106 mg/l (DIN 38412-15, 48 h, Leuciscus idus, Fresh water, Weight of evidence)
EC50 - Crustacea [1]	42.81 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [2]	≈ 93.8 mg/l Test organisms (species): Daphnia magna
ErC50 algae	74.35 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)
NOEC (chronic)	10 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
Cumene hydroperoxide (80-15-9)	
LC50 - Fish [1]	3.9 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	19 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
ErC50 algae	3.1 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)
Tosyl chloride (98-59-9)	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oryzias latipes, Static system, Fresh water, Experimental value, Neutralized)
EC50 - Crustacea [1]	> 334 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Neutralized)
ErC50 algae	> 100 mg/l (EPA OPPTS 850.5400, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)
Butylated hydroxytoluene (128-37-0)	
LC50 - Fish [1]	0.199 mg/l (ECOSAR v1.00, 96 h, Pisces, QSAR, Lethal)
EC50 - Crustacea [1]	0.48 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
LOEC (chronic)	1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.023 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	0.053 mg/l Test organisms (species): Oryzias latipes Duration: '42 d'

12.2. Persistence and degradability

Methyl methacrylate (80-62-6)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.14 g O ₂ /g substance
ThOD	1.9 g O ₂ /g substance
Methacrylic acid (79-41-4)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.89 g O ₂ /g substance
ThOD	1.67 g O ₂ /g substance
Maleic acid (110-16-7)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.38 g O ₂ /g substance
Chemical oxygen demand (COD)	0.83 g O ₂ /g substance
ThOD	0.83 g O ₂ /g substance
Cumene hydroperoxide (80-15-9)	
Persistence and degradability	Not readily biodegradable in water.
Tosyl chloride (98-59-9)	
Persistence and degradability	Readily biodegradable in water.

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Tosyl chloride (98-59-9)	
ThOD	1.5 g O ₂ /g substance

Butylated hydroxytoluene (128-37-0)	
Persistence and degradability	Not readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.51 g O ₂ /g substance
Chemical oxygen demand (COD)	2.27 g O ₂ /g substance
ThOD	2.977 g O ₂ /g substance

12.3. Bioaccumulative potential

Methyl methacrylate (80-62-6)	
Partition coefficient n-octanol/water (Log Pow)	1.4 (Experimental value, Equivalent or similar to OECD 107, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Methacrylic acid (79-41-4)	
Partition coefficient n-octanol/water (Log Pow)	0.93 (Experimental value, 22 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Maleic acid (110-16-7)	
Partition coefficient n-octanol/water (Log Pow)	-1.3 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Bioaccumulative potential	Not bioaccumulative.

Cumene hydroperoxide (80-15-9)	
Partition coefficient n-octanol/water (Log Pow)	1.6 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Tosyl chloride (98-59-9)	
Bioaccumulative potential	Not bioaccumulative.

Butylated hydroxytoluene (128-37-0)	
Partition coefficient n-octanol/water (Log Pow)	4.17 (Experimental value, 37 °C)
Bioaccumulative potential	Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).

12.4. Mobility in soil

Methyl methacrylate (80-62-6)	
Surface tension	61 mN/m (OECD 115: Surface Tension of Aqueous Solutions)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.94 – 1.9 (log Koc, EPA OTS 796.2750: Sediment and Soil Adsorption Isotherm, Experimental value, GLP)
Ecology - soil	Highly mobile in soil.

Methacrylic acid (79-41-4)	
Surface tension	65.9 mN/m (20 °C, 1.01 g/l, EU Method A.5: Surface tension)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.353 – 0.67 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

Maleic acid (110-16-7)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.63 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

Cumene hydroperoxide (80-15-9)	
Surface tension	28 mN/m (-9 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.6 (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.

Tosyl chloride (98-59-9)	
Surface tension	No data available in the literature

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Tosyl chloride (98-59-9)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.9 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.
Butylated hydroxytoluene (128-37-0)	
Surface tension	Not applicable (water solubility < 1 mg/l)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	4.4 (log Koc, SRC PCKOCWIN v1.66, Calculated value)
Ecology - soil	Low potential for mobility in soil. May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Flammable vapors may accumulate in the container. Do not re-use empty containers.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description (DOT)	: UN2924 Flammable liquids, corrosive, n.o.s. (Methyl methacrylate ; Methacrylic acid), 3 (8), II
UN-No.(DOT)	: UN2924
Proper Shipping Name (DOT)	: Flammable liquids, corrosive, n.o.s. Methyl methacrylate ; Methacrylic acid
Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT)	: II - Medium Danger
Subsidiary risk (DOT)	: 8 - Class 8 - Corrosive material 49 CFR 173.136
Hazard labels (DOT)	: 3 - Flammable liquid 8 - Corrosive



Dangerous for the environment	: Yes
Marine pollutant	: Yes



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 243
DOT Symbols	: G - Identifies PSN requiring a technical name

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- DOT Special Provisions (49 CFR 172.102) : 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.
T11 - 6 178.274(d)(2) Normal..... 178.275(d)(3)
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 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) : 1 L
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 5 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.
- DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"
- Emergency Response Guide (ERG) Number : 132
- Other information : No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

- Transport document description (IMDG) : UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Methyl methacrylate ; Methacrylic acid), 3 (8), II
- UN-No. (IMDG) : 2924
FLAMMABLE LIQUID, CORROSIVE, N.O.S.
Methyl methacrylate ; Maleic acid ; Methyl methacrylate ; Methacrylic acid
- Class (IMDG) : 3 - Flammable liquids
- Packing group (IMDG) : II - substances presenting medium danger
- Subsidiary hazard (IMDG) : 8 - Corrosive substances
- Limited quantities (IMDG) : 1 L
- Marine pollutant : Yes



Air transport

- Transport document description (IATA) : UN 2924 Flammable liquid, corrosive, n.o.s. (Methyl methacrylate ; Methacrylic acid), 3 (8), II
- UN-No. (IATA) : 2924
- Proper Shipping Name (IATA) : Flammable liquid, corrosive, n.o.s.
Methyl methacrylate ; Maleic acid ; Methyl methacrylate ; Methacrylic acid
- Class (IATA) : 3 - Flammable Liquids
- Packing group (IATA) : II - Medium danger
- Subsidiary hazards (IATA) : 8 - Corrosives

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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.

Methyl methacrylate	CAS-No. 80-62-6	25-60%
Cumene hydroperoxide	CAS-No. 80-15-9	1-2%

Methyl methacrylate (80-62-6)

Subject to reporting requirements of United States SARA Section 313
Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ 1000 lb

Methacrylic acid (79-41-4)

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

Maleic acid (110-16-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ 5000 lb

Cumene hydroperoxide (80-15-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ 10 lb

Tosyl chloride (98-59-9)

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

Butylated hydroxytoluene (128-37-0)

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

Urethane methacrylate oligomer - Trade secret CAS (Trade secret)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Methyl methacrylate (80-62-6)

Listed on the Canadian DSL (Domestic Substances List)

Methacrylic acid (79-41-4)

Listed on the Canadian DSL (Domestic Substances List)

Maleic acid (110-16-7)

Listed on the Canadian DSL (Domestic Substances List)

Cumene hydroperoxide (80-15-9)

Listed on the Canadian DSL (Domestic Substances List)

Tosyl chloride (98-59-9)

Listed on the Canadian DSL (Domestic Substances List)

Butylated hydroxytoluene (128-37-0)

Listed on the Canadian DSL (Domestic Substances List)

Urethane methacrylate oligomer - Trade secret CAS (Trade secret)

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

EU-Regulations

Contains no REACH candidate substance

Methyl methacrylate (80-62-6)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Methacrylic acid (79-41-4)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Maleic acid (110-16-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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Cumene hydroperoxide (80-15-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Tosyl chloride (98-59-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Butylated hydroxytoluene (128-37-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Methyl methacrylate (80-62-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

Methacrylic acid (79-41-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

Maleic acid (110-16-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

Cumene hydroperoxide (80-15-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)


Tosyl chloride (98-59-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Butylated hydroxytoluene (128-37-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)

15.3. US State regulations

 **WARNING:** This product can expose you to Cumene, which is known to the State of California to cause cancer, and Ethylene glycol (ingested), 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
Methyl methacrylate(80-62-6)	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
Methacrylic acid(79-41-4)	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

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Component	State or local regulations
Maleic acid(110-16-7)	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
Cumene hydroperoxide(80-15-9)	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
Butylated hydroxytoluene(128-37-0)	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

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Revision date : 02/01/2024

Full text of H-phrases:

H225	Highly flammable liquid and vapor
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

SDS US - ResinLab

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