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· **Product Identifier**
· **Trade Name: AR4305HP CREAM B**
· **Application of the Substance or Mixture:** Acrylic Activator

· **Details of the Supplier of the Safety Data Sheet (SDS)**
· **Manufacturer or Supplier:**
Resinlab, LLC
N109 W13300 Ellsworth Drive,
Germantown, WI 53022
1-800-388-8605
www.resinlab.com
· **Information Department:** Product Safety Department: msds@resinlab.com
· **Emergency Telephone Number:**
North America - Chemtrec: 1-800-424-9300 (24 hours)
International - Chemtrec: 01-703-527-3887 (24 hours)

*
2 Hazard(s) identification

· **Hazard Classification**

GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

H402 Harmful to aquatic life.

· **Label Elements**
· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Pictogram(s)**

GHS02

· **Signal Word** Danger
· **Hazard statements**
Highly flammable liquid and vapor.
Harmful to aquatic life.

· **Precautionary statements**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Use explosion-proof electrical/ventilating/lighting/equipment.
Wear protective gloves / eye protection / face protection.
Ground/bond container and receiving equipment.
Keep container tightly closed.
Use only non-sparking tools.
Avoid release to the environment.
Take precautionary measures against static discharge.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of fire: Use for extinction: CO2, powder or water spray.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Prevention**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Use explosion-proof electrical/ventilating/lighting/equipment.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.
Ground/bond container and receiving equipment.
Keep container tightly closed.
Use only non-sparking tools.
Avoid release to the environment.
Take precautionary measures against static discharge.

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Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not eat, drink or smoke when using this product.
Avoid breathing dust/fume/gas/mist/vapors/spray

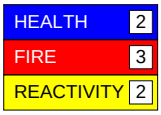
· **Disposal** *Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Hazard Rating System**
· **NFPA System**
· **NFPA Ratings (scale 0 - 4)**

Health = 2
Fire = 3
Reactivity = 2

NFPA special hazards (water reactivity and oxidizing property): None

· **HMIS System**
· **HMIS Ratings (scale 0 - 4)**



Health = 2
Fire = 3
Reactivity = 2

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** *Not applicable.*
· **vPvB:** *Not applicable.*

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3 Composition/information on ingredients

· **Chemical Characterization: Mixtures**

· **Composition/Information on Ingredients**

CAS: 80-62-6 EINECS: 201-297-1 Index Number: 607-035-00-6 RTECS: OZ 5075000	Methyl methacrylate	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 H402	80-90%
CAS: 64742-88-7 EINECS: 265-191-7 Index Number: 649-405-00-X	Solvent naphtha (petroleum), medium aliph.	Flam. Liq. 3, H226 Asp. Tox. 1, H304	2.5-5%
CAS: 13463-67-7 EINECS: 236-675-5 RTECS: XR2275000	Titanium dioxide	Carc. 2, H351	≤1%

· **Classification System:**
The Classifications were based on the Toxicological and Ecological Data of the substances/mixtures in the Section 11 and 12.

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4 First-aid measures

· **Description of First Aid Measures**
· **General Information**
Ensure medical personnel are aware of exposure and take precautions for their personal protection; see Section 8 for the information of personal protection.

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· **After Inhalation**
Remove victim from exposure to fresh air. Keep person at rest. Provide oxygen if person is not breathing.
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
Supply fresh air; consult doctor in case of complaints.

· **After Skin Contact**
Gently wash contaminated skin with water.
Remove all contaminated clothing and wash before reuse.
Seek medical treatment in case of complaints.

· **After Eye Contact**
Rinse opened eyes under running water for at least 15 minutes.
Remove contact lenses if present and easy to do so; continue rinsing.
Call a doctor immediately.

· **After Swallowing**
If victim is unconscious; never give anything by mouth.
If victim is conscious; rinse out mouth and give victim small amounts of water.
Seek immediate medical advice even there are no symptoms.
Do NOT induce vomiting.

· **After Exposure** Get medical advice/attention at once.

· **Information for Doctor** Have chemical containers, labels and/or (M)SDS ready when calling or visiting a medical center.
· **Indication of any Immediate Medical Attention and Special Treatment Needed**
Check section 11 Toxicological Information for further relevant information.

· **Additional Information**
For additional information, please consult the corresponding first aid measures in the most current version of Emergency Response Guidebook which is produced by the US Department of Transportation.

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5 Fire-fighting measures

· **Extinguishing Media**
· **Suitable Extinguishing Agent(s)**
Use fire fighting measures and extinguishing agents that suit the environment.
In case of fire, suitable extinguishing agents are:
Alcohol resistant foam.
Dry chemical or fire-extinguishing powder.
Carbon dioxide (CO_2).
· **Unsuitable Extinguishing Agent(s)** Water with full jet

· **Firefighting Procedures**
Isolate fire and deny unnecessary entry.
Eliminate all ignition sources if safe to do so.
Do not extinguish fire unless flow can be stopped.
Fight fire remotely due to the risk of explosion.
Burning liquids may be moved by flushing with water; protect personnel and minimize property damage.
Contain fire water runoff if possible to prevent environmental pollution.
Fight fire from protected location or safe distance.
Contain fire water runoff if possible to prevent environmental pollution.

· **Special Hazards Arising in Fire**
Caution! Highly flammable liquid or vapor.
Caution! May polymerize explosively when heated or involved in a fire.
In case of fire, following can be released:
Carbon dioxide (CO_2) and Carbon monoxide (CO)
Nitrogen oxides
Titanium oxides

· **Advice for Firefighters**
If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA fire brigades standard (29 CFR 1910.156).

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As with any fire, wear positive-pressure self-contained breathing apparatus and full protective gear that are NIOSH approved.

· **Additional Information** *Ensure adequate and functional fire fighting facilities equipped in working area at all times.*

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6 Accidental release measures

· **Personal Precautions**
Caution! Highly flammable liquid or vapor; wear fire resistant or retardant clothing during clean up.
Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during use.
Ensure personnel take precautions for their personal protection during clean up; see Section 8 for the specific requirements.

· **Environmental Precautions**
Keep away from sewage system or other water courses; do not penetrate ground/soil.
Inform respective authorities in case of any seepage to the environment.

· **Cleaning Up Methods**
Eliminate heat, sparks, open flame and other ignition sources before clean up.
A vapor suppressing foam should be used to reduce vapors at first.
All equipment used for clean up must be grounded.
Don't touch or walk through spilled chemicals unless trained and equipped as stated in the OSHA fire brigades standard (29 CFR 1910.156).
Ensure adequate ventilation.
Keep unauthorized personnel away.
For large spills:
Shut off source of leak if safe to do so.
Dike and contain.
Remove with vacuum trucks or pump to storage/salvage vessels.
Absorb spills with inert materials like sand and or vermiculite.
Absorb residues with liquid-binding materials.
For small spills:
Ventilate and wash area after clean-up is complete.
Collect spills in suitable and properly labeled containers.
Do not use solvents unless following safe handling practices and within the recommended exposure guidelines.
Dispose contaminated chemicals as waste according to Section 13.

· **Additional Information** *No further relevant information.*

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7 Handling and storage

· **Handling**
· **Precautions for Safe Handling**
Caution! Highly flammable liquid or vapor.
Obtain special instruction before use; do not handle until all safety precautions have been read and understood.
Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during handling.
Wear respiratory protection when handling.
Keep away from heat, sparks, open flame and other ignition sources during handling.
Keep away from incompatible material(s).
Avoid any release into the environment.
Observe all the personal protection requirements in Section 8.
· **Information about Protection Against Explosions and Fires**
Keep away from heat, sparks, open flame and other ignition sources.
Protect against electrostatic charges during handling.
Metal containers involved must be grounded and bonded.
Use only non-sparking tools and equipment, especially when opening or closing containers of combustible contents.

· **Storage**
· **Requirements to be Met by Storerooms and Receptacles**
Caution! Highly flammable liquid or vapor; keep away from heat, sparks, open flame and other ignition sources during storage.
Store in tightly closed containers in a cool, and well-ventilated area.
Keep stored in accordance with local, regional, national, and international regulations.

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· **Information about Storage in One Common Storage Facility**
Do not store above 100 degrees F.
Store away from incompatible material(s).
Store away from foodstuffs.
Avoid release to the environment.

· **Additional Information** No further relevant information.

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8 Exposure controls/personal protection

· **Engineering Measures or Controls**

· **Exposure Limit Values that Require Monitoring at the Workplace**

80-62-6 Methyl methacrylate

PEL	Long-term value: 410 mg/m³, 100 ppm
REL	Long-term value: 410 mg/m³, 100 ppm
TLV	Short-term value: 410 mg/m³, 100 ppm Long-term value: 205 mg/m³, 50 ppm (SEN) NIC-DSEN

· **Additional Information for the Limit Values**
As a SUSPECTED CARCINOGEN, there may be NO safe level of exposure; reduce all contact to the lowest possible level.

· **Other Engineering Measures or Controls**
Ventilation rates should be matched to conditions.
If applicable, use process enclosure(s), local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

· **Personal Protective**

· **General Protective and Hygienic Measures**
Do not eat, drink or smoke during work.
Avoid any contact with the eye.
Keep food, drink or feed away from working area.
Contaminated work clothing is not allowed out of workplace.
Clean hands and exposed skin thoroughly after work and before breaks.

· **Personal Protective Equipment (PPE)**

· **Breathing Equipment**
Caution! Improper use of respirators is dangerous.
In case of brief exposure or low pollution, use a respiratory filter device.
In case of intensive or longer exposure, use a positive-pressure respiratory protective device that is independent of circulating air.

· **Hand Protection**

Protective gloves

Selection of glove material should take into consideration the penetration times, rates of diffusion, and the degradation.
Suggested glove type(s):
Nitrile Gloves
Butyl Rubber Gloves

· **Eye Protection**

Safety Glasses

· **Body Protection** No relevant information.

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· **Additional Information**
All protective clothing (suits, gloves, footwear, headgear) should be clean, available every day, and put on before work.
The Engineering measures or controls, and PPE recommendations are only guidelines and may not apply to every situation. For additional information, please consult the corresponding requirements under OSHA 29 CFR 1910.94-95, and 29 CFR 1910.132-138.

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9 Physical and chemical properties

· **Information on Basic Physical and Chemical Properties**

· **Appearance:**	
· **Form:**	Gel
· **Color:**	Cream to off white
· **Odor:**	Pungent
· **Odor Threshold:**	Not determined.
· **PH-Value:**	Not determined.
· **Change in Condition:**	
· **Melting Point:**	Not determined.
· **Boiling Point:**	Not determined.
· **Flash Point:**	11 °C (52 °F)
· **Decomposition Temperature:**	Not determined.
· **Flammability:**	Not determined.
· **Explosion:**	Not determined.
· **Explosion Limits:**	
· **Lower:**	2.1 Vol %
· **Upper:**	12.5 Vol %
· **Vapor Pressure at 20 °C (68 °F):**	38.7 hPa (29 mm Hg)
· **Density at 20 °C (68 °F):**	1.2 g/cm³ (10.014 lbs/gal)
· **Solubility in or Miscibility with**	
· **Water:**	Soluble.
· **Henry's Law Constant:**	4.6E-9 atm-m³/mol (Estimated)
· **Viscosity:**	
· **Dynamic at 20 °C (68 °F):**	300000 mPas
· **Kinematic:**	Not determined.
· **Additional Information**	No further relevant information.

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10 Stability and reactivity

· **Physical Hazard(s)** Highly flammable liquid or vapor.

· **Hazardous Reactivity and Chemical Stability**
May form explosive vapor-air mixtures when heated above the flash point.
May polymerize explosively when heated or involved in a fire.

· **Thermal Decomposition and Conditions to be Avoided**
Highly flammable liquid or vapor; keep away from direct sunlight, heat, sparks, open flame and other ignition sources at all times.
May polymerize with considerate heat buildup to potentially cause an explosion when heated; keep away from heat, sparks, open flame and other ignition sources at all times.

· **Possibility of Other Hazardous Reaction(s)** No further relevant information available.

· **Incompatible Material(s)**
Moisture.
Amines.

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Oxidizing agents
Strong acids
Strong bases
Halogens
Reducing agents

· **Hazardous Decomposition Product(s)**
Thermally decomposes during fire or very high heat. See Section 5 for fire hazards evolved during thermal decomposition.

· **Hazardous Polymerization Product(s)** *Acrylate polymer*

· **Additional Information** *No further relevant information.*

*
11 Toxicological information

· **Acute Toxicity**

· Oral		
80-62-6 Methyl methacrylate		
Oral	LD50	>6000 mg/kg (rat) 5200 mg/kg (mice) 5800 - 6500 mg/kg (rabbits) Reference: ECHA (2011) and OECD SIDS (2001).
64742-88-7 Solvent naphtha (petroleum), medium aliph.		
Oral	LD50	>6500 mg/kg (rat)
13463-67-7 Titanium dioxide		
Oral	LD50	>24000 mg/kg (rat) Reference: DuPont (M)SDS (2007)

· **Potential Health Effect(s):**
While not a classified acute oral hazard, the product may cause the following symptom(s):
abnormal pain
nausea
vomiting
See acute inhalative effect(s) for further information

· Dermal		
80-62-6 Methyl methacrylate		
Dermal	LD50	>7550 mg/kg (rabbit) > 5000 mg/kg (male rabbits; occlusive) There were no death, clinical signs, or gross pathology observed after a single dermal application with 5000 mg/kg of the substance to rabbits. Reference: OECD SIDS (2001) and ECHA (2011).
64742-88-7 Solvent naphtha (petroleum), medium aliph.		
Dermal	LD50	>3000 mg/kg (rab)
13463-67-7 Titanium dioxide		
Dermal	LD50	>10000 mg/kg (rabbit) Reference: DuPont (M)SDS (2007)

· **Potential Health Effect(s):**
Not a classified acute dermal hazard.
See acute inhalative effect(s) for further information.

· Inhalative		
80-62-6 Methyl methacrylate		
Inhalative	LC50/4 h	27.5 mg/l (rat) (Calculated from LC50/4hrs of 7093 ppm) 33 mg/l (mice) (LC50/3h) Reference: OECD SIDS (2001).
64742-88-7 Solvent naphtha (petroleum), medium aliph.		
Inhalative	LC50/4 h	>14 mg/l (rat)

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13463-67-7 Titanium dioxide		
Inhalative	LC50/4 h	(rat) (Not expected as a wetted form)

· **Potential Health Effect(s):**
While not a classified inhalative acute toxicity hazard, the product may cause the following symptoms:
cough
dizziness or lightheadedness
shortness of breath
sore throat
irritability, difficulty with concentration and reduced memory

· **Skin Corrosion or Irritation**

80-62-6 Methyl methacrylate	
Corrosion/Irritation	irritating (rabbit) (OECD TG 404) Primary dermal irritation index (PDII): 0.167 (Max. scale was not available; observation period: 72 hrs; shaved skin; time point: 24+72 hrs; mean score of all treated animals); not fully reversible within 72 hrs. The substance was classified as irritating to rabbit skin (Category 2) for safety reasons. Reference: ECHA (2011).
64742-88-7 Solvent naphtha (petroleum), medium aliph.	
Corrosion/Irritation	not classified (Test species: n/a)
13463-67-7 Titanium dioxide	
Corrosion/Irritation	slightly irrit. (rabbit) (0.5g neat substance; 6 rabbits) Reference: IUCLID Dataset (2000).

· **Potential Health Effect(s):** No further relevant information; classification is not possible.

· **Eye Serious Damage or Irritation**

80-62-6 Methyl methacrylate	
Damage/Irritation	irritating (rabbit) The only effect observed was a Grade 2 reddening in cornea after 24 hours of exposure. The substance was therefore considered as mildly to moderately irritating to rabbit eyes, and placed in Category 2A from the viewpoint of safety. Reference: GHS-J (2006).
64742-88-7 Solvent naphtha (petroleum), medium aliph.	
Damage/Irritation	not classified (Test species: n/a)
13463-67-7 Titanium dioxide	
Damage/Irritation	slightly irrit. (rabbit) (neat solid or a 10wt% suspension) Reference: IUCLID Dataset (2002).

· **Potential Health Effect(s):** No further relevant information; classification is not possible.

· **Respiratory or Skin Sensitization**

80-62-6 Methyl methacrylate		
Sensitization	Skin	sensitizing (mouse) (OECD TG 429) EC3 values, the estimated concentrations required for chemical that can induce an SI of 3 (cut-off value of being sensitizing), were determined to be 60% in acetone, and 90% in acetone/olive oil respectively. The substance was therefore considered as sensitizing to mouse skin based on the criteria. Reference: ECHA (2011).
	Respiratory	(No data available) The substance was classified as a respiratory sensitizer by GHS-J, while there was no convincing evidence that this substance was a respiratory sensitizer to humans by OECD SIDS. Thus, classification was not possible without further information. Reference: OECD SIDS (2001) and GHS-J (2006).
64742-88-7 Solvent naphtha (petroleum), medium aliph.		
Sensitization	Skin	not classified (Test species: n/a)
13463-67-7 Titanium dioxide		
Sensitization	Skin	not sensitizing (Human) (48hr-Patch test) Reference: IUCLID Dataset (2000).
	Respiratory	(No data available)

· **Potential Health Effect(s):** No further relevant information for respiratory sensitization; classification is not possible.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

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· Germ Cell Mutagenicity

80-62-6 Methyl methacrylate

Mutagenicity	negative (Test species listed below) In Vitro (bacterial reverse mutation assay; OECD TG 471; S. typhimurium TA 1535, TA 98 and TA 100) – negative with and without metabolic activation. In Vivo (chromosome aberration; OECD TG 478; mouse; inhalation with up to 36.45 mg/L, 6 hours/day for 5 days) - negative; no genotoxic effects were observed in the study. Reference: ECHA (2011).

64742-88-7 Solvent naphtha (petroleum), medium aliph.

Mutagenicity	not classified (Test species: n/a)

13463-67-7 Titanium dioxide

Mutagenicity	Negative (salmonella typhimurium) (In Vitro (AME test)) Reference: IUCLID Dataset (2000).

· **Potential Health Effect(s):** Not a known Germ Cell Mutagen.

· Carcinogenicity

80-62-6 Methyl methacrylate

Carcinogenicity	negative (mouse) NOAEC (carcinogenicity; males and females; OECD TG 421; inhalation with up to 4.1 ml/L for 2 years) = 4.1 mg/L: no carcinogenic effects observed. Meanwhile, the substance was not listed as a carcinogen according to ACGIH, IARC, NTP, or OSHA. Reference: ECHA (2011).

13463-67-7 Titanium dioxide

Carcinogenicity	Positive (Test species: n/a) Substance is listed as an IARC Class 2B carcinogen. This substance is inextricably bound within a product and will not contribute to an inhalation hazard. negative (Rats and Mice) (Non-carcinogenic as a wetted form) There were Carcinogenic effects observed through inhalative routes. As a wetted form, the effect can be seen as negligible. No Carcinogenic effects were exhibited through repeated oral or i.p. doses. The substance was therefore not considered as a carcinogen. Reference: IUCLID Dataset (2000). This substance is inextricably bound within a product and will not contribute to an inhalation hazard.

· **Potential Health Effect(s):** Suspected of causing cancer.

· Reproductive Toxicity

80-62-6 Methyl methacrylate

Reproductive Toxi.	N/a (rat) (OECD TG 416; oral with up to 450 mg/kg bw/day) NOAEL (P and F1 parental animals; systemic toxicity) = 50 mg/kg bw/day: adverse effects on food consumption observed. NOAEL (fertility and reproductive performance of P and F1 parental animals; and developmental toxicity in F1 and F2 progeny) = 450 mg/kg bw/day: No adverse effects observed. (rabbit) (OECD TG 414; oral with up to 450 mg/kg bw/day) NOAEL (maternal toxicity) = 50 mg/kg bw/d: reduced food consumption and lower body weight gain. NOAEL (developmental toxicity) = 450 mg/kg bw/day (highest dose tested). No adverse fetal findings of toxicological relevance were evident at any doses. (rat) (No test guideline available) Embryotoxicity including early fetal death, and hematoma formation was observed at dose levels that were toxic to dams (death, body weight reduction, etc.) in teratogenicity studies with rats. However, ECHA concluded the data were conclusive but not sufficient for the classification. Reference: ECHA (2011).

13463-67-7 Titanium dioxide

Reproductive Toxi.	(No data available)

· **Potential Health Effect(s):** No further relevant information; classification is not possible.

· Specific Target Organ Toxicity - Single Exposure

80-62-6 Methyl methacrylate

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STOT-Single	(Human) (Respiratory irritant) Based on the human epidemiological evidence including respiratory irritation, hyposthenia, fever, dizziness, nausea, headache, and sleepiness, the substance was therefore considered as a respiratory irritant (Category 3). Reference: GHS-J (2006).
13463-67-7 Titanium dioxide	
STOT-Single	Target: None (rat) (No effect observed after oral or dermal doses) Reference: IUCLID Dataset (2000).

· **Potential Health Effect(s):** No further relevant information; classification is not possible.

· **Specific Target Organ Toxicity - Repeated Exposure**

80-62-6 Methyl methacrylate	
STOT-Repeated	(rat) (Target organ: None) NOAEL (Oral; 2 years) > 124 mg/kg bw/day (males) and 164 mg/kg bw/day (females) respectively. The only effects observed were changes in fluid consumption and body weight gain. NOAEC (OECD TG 453; inhalation with up to 400 ppm; gross pathology histopathology and clinical effects) = 400 ppm (1640 mg/m³) Reference: ECHA (2011).
13463-67-7 Titanium dioxide	
STOT-Repeated	Target: None (rat) (No effect after 14 day repeated oral doses) NOAEL (oral; up to 10,000 mg/kg/day) = 100,000 mg/kg/day Reference: IUCLID Dataset (2000).

· **Potential Health Effect(s):** Not a known hazard to organs upon repeated exposure.

· **Aspiration Hazard**

80-62-6 Methyl methacrylate	
Aspiration Hazard	(No data available)
13463-67-7 Titanium dioxide	
Aspiration Hazard	(No data available)

· **Potential Health Effect(s):** No relevant information; classification is not possible.

· **Additional Information** No further relevant information.

*

12 Ecological information

· **Aquatic Environmental Toxicity**

80-62-6 Methyl methacrylate	
Algae Toxicity	170 mg/l (Selenastrum capricornum) (EC50 (96 hr); OECD TG 201)
Crustacean Toxicity	69 mg/l (Daphnia magna (water flea)) (EC50 (48 hr); EPA OTS 797.1300) NOEC (21 d; OECD TG 202) = 37 mg/l Based on the acute EC50 < 100 mg/l, the substance is classified as an Acute-3 environmental hazard.
Fish Toxicity	40 mg/l (Oncorhynchus mykiss (Rainbow trout)) (NOEC (96 hrs); EPA OTS 797.1400) LC50 (Lepomis macrochirus; 96 hr) = 191 mg/l NOEC (Brachydanio rerio; OECD TG 210; 35 days) = 9.4 mg/l Based on the chronic NOEC > 1 mg/l and the fast degradability, the substance is not classified as a chronic environmental hazard. Reference: OECD SIDS (2001) and ECHA (2011).
13463-67-7 Titanium dioxide	
Algae Toxicity	(No data available)
Crustacean Toxicity	1000 mg/l (Daphnia magna (water flea)) (EC100 (30 days)) EC0 (30 days) = 3 mg/l
Fish Toxicity	≥ 1000 mg/l (Leuciscus idus (Ide or Orfe)) (LC0 (48 hrs)) The substance is not expected to harm aquatic organism. Reference: IUCLID Dataset (2000).

· **Aquatic Environmental Toxicity Assessment:** Harmful to aquatic life.

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· Degradability and Stability

80-62-6 Methyl methacrylate

Biodegradation	readily biodeg. (Test species: n/a) (OECD TG 301C; Chemical conc. 100 mg/l; 2 weeks) Biodegradation (BOD) = (92-100)% Biodegradation (TOC removal) = (86-87)% The substance is readily biodegradable. Reference: ECHA (2011).
Persistence	(Test species: n/a) The substance is not persistent. Reference: Canada DSL (2007).
Photodegradation	2.41E-11 cm^3/molecule-sec (OH radical) (Calculated by EPI AOP Program (v1.92)) Half-life (5E5 OH/cm^3) = 15.96 hrs Reference: ECHA (2011).
Stability in water	(Test species: n/a) (OECD TG 111) Half-life (pH = 7; 40 °C) = 34 days Half-life (pH=9; 40 °C) = 31.7 hrs Reference: ECHA (2011).

13463-67-7 Titanium dioxide

Biodegradation	non-biodegrad. (Test species: n/a) (Due to being persistent)
Persistence	(Test species: n/a) (The substance is persistent) Reference: Canada DSL (2007).
Photodegradation	(No data available)
Stability in water	stable (Test species: n/a) (As an inorganic and insoluble metal compound)

· Bioaccumulation and Distribution

80-62-6 Methyl methacrylate

BCF	1.34-1.54 (Test species: n/a) (predicted from LogPow) The substance is not bioaccumulative. Reference: ECHA (2011) and Canada DSL (2007).
Koc	42.7 L/kg (Test species: n/a) Due to the low Koc, no significant adsorption to soil is anticipated. Reference: OECD SIDS (2001).
LogPow	1.38 (Test species: n/a) Reference: OECD SIDS (2001).

13463-67-7 Titanium dioxide

BCF	(Test species: n/a) (The substance is not bioaccumulative) Reference: Canada DSL (2007).
Koc	(No data available)
LogPow	(No data available)

· **Degradability and Bioaccumulation Assessment:** Rapidly degradable; but low-bioaccumulative.

· **Additional Information** No further relevant information.

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13 Disposal considerations

· **Hazardous Waste List**

· **Description:** Regulated as a hazardous waste for disposal.

· **RCRA Waste:**

80-62-6	Methyl methacrylate	U162	80-90%

· **Additional Information of the Hazardous Waste List**
Classification was according to the U.S. Federal Regulation: 40 CFR 261.

· **Waste Treatment Recommendation:**

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Generation of waste should be avoided or minimized wherever possible.
Chemical waste, even small quantities, is neither allowed to be poured down drains, sewage system or waterways; nor disposed with household garbage.
Dispose of contents/containers in accordance with local, regional, national, and international regulations.

· **Unused and Uncontaminated Packagings**
· **Recommendation** Dispose of according to your local waste regulations.

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14 Transport information

· **UN-Number**
· **DOT, ADR, IMDG, IATA** UN1133

· **UN Proper Shipping Name**
· **DOT, ADR, IMDG, IATA** Adhesives

· **Transport hazard class(es)**

· **DOT**

· **Class** 3 Flammable liquids
· **Label** 3

· **ADR**

· **Class** 3 (F1) Flammable liquids
· **Label** 3

· **IMDG, IATA**

· **Class** 3 Flammable liquids
· **Label** 3

· **Packing group**
· **DOT, ADR, IMDG, IATA** II

· **Environmental Hazards:** Not applicable.

· **Special Precautions:** Warning: Flammable liquids
· **Danger Code (Kemler):** 33
· **EMS Number:** F-E,S-D

· **Transport in Bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

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· **Transport/Additional Information:**

· **DOT**

· **Quantity limitations** On passenger aircraft/rail: 5 L
On cargo aircraft only: 60 L

· **ADR**

· **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· **IMDG**

· **Limited quantities (LQ)** 5L

· **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN1133, Adhesives, 3, II

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15 Regulatory information

· **USA Regulation Lists**

· **SARA (Superfund Amendments and Reauthorization Act of 1986)**

· **Section 302 (Extremely Hazardous Substances)**

None of the ingredients is listed.

· **Section 313 (Toxics Release Inventory (TRI) reporting)**

80-62-6	Methyl methacrylate	80-90%

· **Section 311/312 (Hazardous Chemical Inventory Reporting)**

None of the ingredients is listed.

· **Hazard Abbreviations for SARA 311/312**
A - Acute Health Hazard
C - Chronic Health Hazard
F - Fire Hazard
R - Reactive Hazard
S - Sudden Release of Pressure Hazard

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

· **Proposition 65**

· **Chemicals Known to Cause Cancer**
This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

13463-67-7	Titanium dioxide

· **Chemicals Known to Cause Reproductive Toxicity for Females**

None of the ingredients is listed.

· **Chemicals Known to Cause Reproductive Toxicity for Males**

None of the ingredients is listed.

· **Chemicals Known to Cause Developmental Toxicity**

None of the ingredients is listed.

· **Carcinogenic Categories**

· **EPA (Environmental Protection Agency)**

80-62-6	Methyl methacrylate	E, NL

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· **IARC (International Agency for Research on Cancer)**

80-62-6	Methyl methacrylate	3
13463-67-7	Titanium dioxide	2B

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value Established by ACGIH)**

80-62-6	Methyl methacrylate	A4
13463-67-7	Titanium dioxide	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

13463-67-7	Titanium dioxide

· **International Regulation Lists**

· **Canadian Domestic Substance Listings:**

All ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 1%)**

80-62-6	Methyl methacrylate

· **Chinese Chemical Inventory of Existing Chemical Substances:**

All ingredients are listed.

· **Japanese Existing and New Chemical Substance List:**

80-62-6	Methyl methacrylate
13463-67-7	Titanium dioxide

· **Korean Existing Chemical Inventory:**

All ingredients are listed.

· **European Pre-registered substances:**

All ingredients are listed.

· **REACh - Substances of Very High Concern (SVHC) List:**

None of the ingredients is listed.

· **Restriction of Hazardous Substances Directive (RoHS) list:**

None of the ingredients is listed.

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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department Issuing (M)SDS:** Product Safety Department

· **Contact:** msds@resinlab.com

· **Abbreviations and acronyms:**

ACGIH: American Conference of Governmental Industrial Hygienists
ACToR: US EPA Aggregated Computational Toxicology Resource
ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road
BCF: Bioconcentration Factor
CAS: Chemical Abstracts Service (division of the American Chemical Society)
CCRIS: US NLM TOXNET Chemical Carcinogenesis Research Information System
CHRIP: Japan NITE Information on Biodegradation and Bioconcentration of the Existing Chemical Substances in the Chemical Risk Information Platform
DOT: US Department of Transportation
DSL: Canada Domestic Substance List
ECHA: European Chemicals Agency's Dissemination portal with information on chemical substances registered under REACH

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ESIS: European Chemical Substances Information System
HMIS: US National Paint & Coatings Association (NPCA) Hazardous Materials Identification System
HSDB: US NLM TOXNET Hazardous Substances Databank
HSNO CCID: New Zealand Hazardous Substances and New Organisms Chemical Classification Information Database
IARC: International Agency for Research on Cancer developed by United Nations World Health Organisation (WHO)
IATA-DGR: Dangerous Goods Regulations (DGR) by the International Air Transport Association (IATA)
ICAO-TI: Technical Instructions (TI) by the International Civil Aviation Organization (ICAO)
ICSC: International Chemical Safety Cards
IMDG: International Maritime Dangerous Goods; the principal international rules for International Carriage of Dangerous Goods by SEA under the Recommendations on the Transport of Dangerous Goods by United Nations (RTDG)
IUCLID: EU REACh International Uniform Chemical Information Database
Koc: Partition coefficient, soil Organic Carbon to water
LC50/LD50: Lethal Concentration/Dose, 50 percent
N/a: Not available or Not applicable
NFPA: US National Fire Protection Association
NIOSH: US National Institute of Occupational Safety and Health
NITE: National Institute of Technology and Evaluation, Japan
NLM TOXNET: US National Library of Medicine Toxicology Data Network
OECD: Organisation for Economic Co-operation and Development
OSHA: US Occupational Safety and Health Administration
P: Marine Pollutant
RCRA: Resource Conservation and Recovery Act (USA)
REACh: EU Registry, Evaluation and Authorisation of Chemicals
RID: the Regulations Concerning the International Carriage of Dangerous Goods by Rail; published by the Central Office for International Carriage by Rail (OTIF)
RTDG: the Recommendations on the Transport of Dangerous Goods by United Nations (UN)
RTECS: US Registry of Toxic Effects of Chemical Substances
SARA: US Superfund Amendments and Reauthorization Act
SIDS: OECD existing chemicals Screening Information Data Sets
SVHC: EU ECHA Substance of Very High Concern
TEEL: Temporary Emergency Exposure Limit developed by US Subcommittee on Consequence Assessment and Protective Actions (SCAPA) of US Department of Energy (DOE)
TOXLINE: US NLM bibliographic database search system
TSCA: US Toxic Substance Control Act

· **Date of preparation / last revision** *03/10/2015 / 8*