



# SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY\*

Product name: PARALOID™ AU-1033 Resin

Issue Date: 02/25/2020

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THE DOW CHEMICAL COMPANY\* encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

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## 1. IDENTIFICATION

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Product name: PARALOID™ AU-1033 Resin

### Recommended use of the chemical and restrictions on use

Identified uses: Coatings product

### COMPANY IDENTIFICATION

THE DOW CHEMICAL COMPANY\*  
Agent for Rohm and Haas Chemicals LLC  
400 ARCOLA ROAD  
COLLEGEVILLE PA 19426-2914  
UNITED STATES

Customer Information Number:

800-258-2436  
SDSQuestion@dow.com

### EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 1 800 424 9300

Local Emergency Contact: 800-424-9300

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## 2. HAZARDS IDENTIFICATION

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### Hazard classification

GHS classification in accordance with 29 CFR 1910.1200

Flammable liquids - Category 3

Skin irritation - Category 2

Skin sensitisation - Category 1

Specific target organ toxicity - single exposure - Category 3

Specific target organ toxicity - repeated exposure - Category 2 - Inhalation

### Label elements

#### Hazard pictograms



Signal word: **WARNING!**

**Hazards**

Flammable liquid and vapour.

Causes skin irritation.

May cause an allergic skin reaction.

May cause drowsiness or dizziness.

May cause damage to organs (Auditory system) through prolonged or repeated exposure if inhaled.

**Precautionary statements****Prevention**

Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ ventilating/ lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

Wash skin thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

Wear protective gloves/ eye protection/ face protection.

**Response**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

Get medical advice/ attention if you feel unwell.

If skin irritation or rash occurs: Get medical advice/ attention.

Take off contaminated clothing and wash before reuse.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage**

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

Store in a well-ventilated place. Keep cool.

Store locked up.

**Disposal**

Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

No data available

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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**Chemical nature:** Polymers, solvent based

This product is a mixture.

**Component**

**CASRN**

**Concentration**

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Acrylic polymer(s)	Not hazardous	>= 44.0 - <= 48.0 %
Individual residual monomers	Not required	<= 0.35 %
Methyl methacrylate	80-62-6	<= 1.6 %
Propylene glycol monomethyl ether acetate	108-65-6	>= 27.0 - <= 29.0 %
Ethylbenzene	100-41-4	>= 12.0 - <= 14.0 %
Naphtha, light aliphatic	64742-89-8	>= 9.0 - <= 11.0 %
Hydroxyethyl methacrylate	868-77-9	<= 0.35 %

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## 4. FIRST AID MEASURES

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### Description of first aid measures

#### General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

**Skin contact:** Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation or rash occurs. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

**Eye contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

**Ingestion:** If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

#### Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

#### Indication of any immediate medical attention and special treatment needed

**Notes to physician:** Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. If burn is present, treat as any thermal burn, after decontamination. Alcohol consumed before or after exposure may increase adverse effects. No specific antidote.

Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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## 5. FIREFIGHTING MEASURES

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### Extinguishing media

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide..

**Unsuitable extinguishing media:** No data available

### Special hazards arising from the substance or mixture

**Hazardous combustion products:** No data available

**Unusual Fire and Explosion Hazards:** Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.. Cool closed containers exposed to fire with water spray..

### Advice for firefighters

**Fire Fighting Procedures:** For safety reasons in case of fire, cans should be stored separately in closed containments..

**Special protective equipment for firefighters:** Wear full protective clothing and self-contained breathing apparatus..

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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** Ensure adequate ventilation. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. See SECTION 13, Disposal Considerations, for information regarding the disposal of contained spills.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so.

**Methods and materials for containment and cleaning up:** Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). No sparking tools should be used.

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## 7. HANDLING AND STORAGE

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**Precautions for safe handling:** For personal protection see section 8. Do not smoke. Take precautionary measures against static discharges. CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all (M)SDS and label warnings even after container is emptied.

**Conditions for safe storage:** Ground all metal containers during storage and handling. Store in cool place. No smoking. Keep container tightly closed in a dry and well-ventilated place. Electrical

installations / working materials must comply with the technological safety standards. Material can burn; limit indoor storage to approved areas equipped with automatic sprinklers. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value
Methyl methacrylate	ACGIH	TWA	50 ppm
	Further information: DSEN: Dermal Sensitization; URT irr: Upper Respiratory Tract irritation; eye irr: Eye irritation; pulm edema: Pulmonary edema; body weight eff: body weight effects; A4: Not classifiable as a human carcinogen		
	ACGIH	STEL	100 ppm
	Further information: DSEN: Dermal Sensitization; URT irr: Upper Respiratory Tract irritation; eye irr: Eye irritation; pulm edema: Pulmonary edema; body weight eff: body weight effects; A4: Not classifiable as a human carcinogen		
	OSHA Z-1	TWA	410 mg/m3 100 ppm
	Further information: (b): The value in mg/m3 is approximate.		
	CAL PEL	PEL	205 mg/m3 50 ppm
	CAL PEL	STEL	410 mg/m3 100 ppm
Propylene glycol monomethyl ether acetate	Dow IHG	TWA	30 ppm
	Further information: SKIN: Absorbed via skin		
	Dow IHG	STEL	90 ppm
	Further information: SKIN: Absorbed via skin		
	US WEEL	TWA	50 ppm
Ethylbenzene	ACGIH	TWA	20 ppm
	Further information: cochlear imp: Cochlear impair; kidney dam (nephropathy): Kidney damage (nephropathy); URT irr: Upper Respiratory Tract irritation; BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section); A3: Confirmed animal carcinogen with unknown relevance to humans		
	OSHA Z-1	TWA	435 mg/m3 100 ppm
	Further information: (b): The value in mg/m3 is approximate.		
	OSHA P0	TWA	435 mg/m3 100 ppm
	OSHA P0	STEL	545 mg/m3 125 ppm
Naphtha, light aliphatic	Dow IHG	TWA	100 ppm
	Dow IHG	STEL	125 ppm
	OSHA Z-1	TWA	2,000 mg/m3 500 ppm
	Further information: (b): The value in mg/m3 is approximate.		
Hydroxyethyl methacrylate	Dow IHG	TWA	1 ppm
	Dow IHG	STEL	3 ppm

### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Ethylbenzene	100-41-4	Sum of mandelic acid and phenyl glyoxylic acid	Urine	End of shift (As soon as possible after exposure	0.15 g/g creatinine	ACGIH BEI

ceases)

### Exposure controls

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Individual protection measures

**Eye/face protection:** Use safety glasses (with side shields). If exposure causes eye discomfort, use a full-face respirator.

#### Skin protection

**Hand protection:** Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene/butadiene rubber. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

Physical state	liquid
Color	yellow clear
Odor	Sweet odor
Odor Threshold	No data available
pH	No data available
Melting point/range	-71.00 °C ( -95.80 °F) Initial
Freezing point	No data available
Boiling point (760 mmHg)	108.00 °C ( 226.40 °F) Initial
Flash point	<b>closed cup</b> 27.00 °C ( 80.60 °F) <i>SETAFLASH CLOSED CUP</i>
Evaporation Rate (Butyl Acetate = 1)	<1.00

Flammability (solid, gas)	Not Applicable
Lower explosion limit	0.90 % vol estimated
Upper explosion limit	6.70 % vol estimated
Vapor Pressure	7.0000000 mmHg at 20.00 °C (68.00 °F) estimated
Relative Vapor Density (air = 1)	>1.0000
Relative Density (water = 1)	1.0300
Water solubility	practically insoluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	466.00 °C (870.80 °F) estimated
Decomposition temperature	No data available
Dynamic Viscosity	4,000.000 - 8,000.000 mPa.s
Kinematic Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	No data available
Percent volatility	49.00 - 51.00 %

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** No data available

**Chemical stability:** No data available

**Possibility of hazardous reactions:** No data available

**Conditions to avoid:** No data available

**Incompatible materials:** No data available

**Hazardous decomposition products**

No hazardous decomposition products are known.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data is available.*

**Information on likely routes of exposure**

Ingestion, Inhalation, Skin contact, Eye contact.

**Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)**

**Acute oral toxicity**

Harmful effects not anticipated from swallowing small amounts. Very low toxicity if swallowed. Swallowing may result in gastrointestinal irritation. Based on information for component(s): Observations in animals include: Lethargy

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):  
LD50, > 5,000 mg/kg Estimated.

**Information for components:**

**Acrylic polymer(s)**

Single dose oral LD50 has not been determined.

**Methyl methacrylate**

Swallowing may result in gastrointestinal irritation. LD50, Rat, 7,900 mg/kg

**Propylene glycol monomethyl ether acetate**

Observations in animals include: Lethargy. LD50, Rat, > 5,000 mg/kg

**Ethylbenzene**

LD50, Rat, 3,500 mg/kg

**Naphtha, light aliphatic**

LD50, Rat, male and female, > 5,000 mg/kg

**Hydroxyethyl methacrylate**

LD50, Rat, male and female, > 5,564 mg/kg

**Acute dermal toxicity**

Prolonged skin contact with very large amounts may cause dizziness or drowsiness. Based on information for component(s): Although data from animal studies indicate a low potential for absorption through the skin in harmful amounts, there have been a few case reports which suggest that sensory (neurological) effects may result from skin contact.

As product: The dermal LD50 has not been determined.

Based on information for component(s):  
LD50, > 2,000 mg/kg Estimated.

**Information for components:**

**Acrylic polymer(s)**

The dermal LD50 has not been determined.

**Methyl methacrylate**

LD50, Rabbit, > 5,000 mg/kg

**Propylene glycol monomethyl ether acetate**

LD50, Rabbit, > 5,000 mg/kg

**Ethylbenzene**

LD50, Rabbit, 15,500 mg/kg



**Naphtha, light aliphatic**

LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

**Hydroxyethyl methacrylate**

In humans, symptoms may include: Diarrhea. Nausea and/or vomiting. Symptoms may include as tingling, numbness or pain in the extremities. LD50, Rabbit, males, > 5,000 mg/kg

**Acute inhalation toxicity**

No adverse effects expected from single exposure. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause central nervous system effects. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness. Alcohol consumed before or after exposure may increase adverse effects.

As product: The LC50 has not been determined.

**Information for components:**

**Acrylic polymer(s)**

The LC50 has not been determined.

**Methyl methacrylate**

LC50, Rat, 4 Hour, vapour, 29.8 mg/l

**Propylene glycol monomethyl ether acetate**

LC0, Rat, 6 Hour, vapour, > 23.5 mg/l No deaths occurred at this concentration.

**Ethylbenzene**

LC50, Rat, 4 Hour, vapour, 17.2 mg/l

**Naphtha, light aliphatic**

LC50, Rat, male and female, 4 Hour, vapour, > 5.61 mg/l No deaths occurred following exposure to a saturated atmosphere.

**Hydroxyethyl methacrylate**

The LC50 has not been determined.

**Skin corrosion/irritation**

Based on information for component(s):

Brief contact may cause moderate skin irritation with local redness.

Repeated contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.

**Information for components:**

**Acrylic polymer(s)**

Essentially nonirritating to skin.

**Methyl methacrylate**

Brief contact may cause moderate skin irritation with local redness.

**Propylene glycol monomethyl ether acetate**

Prolonged contact is essentially nonirritating to skin.

Repeated contact may cause skin irritation with local redness.

**Ethylbenzene**

Brief contact may cause moderate skin irritation with local redness.

Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.

May cause drying and flaking of the skin.

**Naphtha, light aliphatic**

Brief contact may cause moderate skin irritation with local redness.

Repeated contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.

**Hydroxyethyl methacrylate**

Essentially nonirritating to skin.

non-irritating

**Serious eye damage/eye irritation**

Based on information for component(s):

May cause slight eye irritation.

Corneal injury is unlikely.

Vapor may cause eye irritation experienced as mild discomfort and redness.

**Information for components:**

**Acrylic polymer(s)**

Essentially nonirritating to eyes.

**Methyl methacrylate**

May cause slight eye irritation.

Corneal injury is unlikely.

Vapor may cause eye irritation experienced as mild discomfort and redness.

**Propylene glycol monomethyl ether acetate**

May cause pain disproportionate to the level of irritation to eye tissues.

May cause slight eye irritation.

May cause slight corneal injury.

**Ethylbenzene**

May cause moderate eye irritation.

Vapor may cause lacrimation (tears).

**Naphtha, light aliphatic**

May cause slight eye irritation.

Corneal injury is unlikely.

Vapor may cause eye irritation experienced as mild discomfort and redness.

**Hydroxyethyl methacrylate**

May cause severe eye irritation.

May cause slight corneal injury.

**Sensitization**

Contains component(s) which have demonstrated the potential for contact allergy in mice.

Contains component(s) which have caused allergic skin sensitization in guinea pigs.

Based on information for component(s):

Individuals having an allergic skin reaction to this product may have an allergic skin reaction to similar material(s).

Individuals who have had an allergic skin reaction to similar materials may have an allergic skin reaction to this product.

The similar material(s) is/are:

2-Hydroxypropyl methacrylate.

For respiratory sensitization:

No relevant data found.

**Information for components:**

**Acrylic polymer(s)**

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

**Methyl methacrylate**

Has caused allergic skin reactions in humans.

Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

**Propylene glycol monomethyl ether acetate**

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

**Ethylbenzene**

Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:

No relevant data found.

**Naphtha, light aliphatic**

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

**Hydroxyethyl methacrylate**

Has caused allergic skin reactions in humans.

Individuals having an allergic skin reaction to this product may have an allergic skin reaction to similar material(s).

Individuals who have had an allergic skin reaction to similar materials may have an allergic skin reaction to this product.

The similar material(s) is/are:

2-Hydroxypropyl methacrylate.

For respiratory sensitization:  
No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

**Information for components:**

**Acrylic polymer(s)**

The substance or mixture is not classified as specific target organ toxicant, single exposure.

**Methyl methacrylate**

May cause respiratory irritation.  
Route of Exposure: Inhalation  
Target Organs: Respiratory Tract

**Propylene glycol monomethyl ether acetate**

May cause drowsiness or dizziness.  
Route of Exposure: Oral  
Target Organs: Central nervous system

**Ethylbenzene**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Naphtha, light aliphatic**

May cause drowsiness or dizziness.  
Route of Exposure: Inhalation  
Target Organs: Central nervous system

**Hydroxyethyl methacrylate**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**Information for components:**

**Acrylic polymer(s)**

No aspiration toxicity classification

**Methyl methacrylate**

May be harmful if swallowed and enters airways.

**Propylene glycol monomethyl ether acetate**

Based on physical properties, not likely to be an aspiration hazard.

**Ethylbenzene**

Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia. May be fatal if swallowed and enters airways.

**Naphtha, light aliphatic**

May be fatal if swallowed and enters airways.

**Hydroxyethyl methacrylate**

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

**Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)**

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

Contains component(s) which have been reported to cause effects on the following organs in humans:  
Respiratory tract.

Contains component(s) which have been reported to cause effects on the following organs in animals:  
Kidney.

Liver.

Lung.

Gastrointestinal tract

Respiratory Tract

Nasal tissue.

Based on information for component(s):

May cause hearing loss based on animal data.

Although one early inhalation study on ethylbenzene reported an adverse effect on the testes, recent, more comprehensive studies have not shown this effect.

**Information for components:**

**Acrylic polymer(s)**

No relevant data found.

**Methyl methacrylate**

In humans, effects have been reported on the following organs:

Respiratory tract.

In animals, effects have been reported on the following organs:

kidney

Liver

Gastrointestinal tract

nervous system

lung

**Ethylbenzene**

In animals, effects have been reported on the following organs:

May cause hearing loss based on animal data.

Kidney.

Liver.

Lung.

Although one early inhalation study on ethylbenzene reported an adverse effect on the testes, recent, more comprehensive studies have not shown this effect.

**Naphtha, light aliphatic**

In animals, effects have been reported on the following organs:

Kidney.

Liver.

**Hydroxyethyl methacrylate**

In animals, effects have been reported on the following organs:

Kidney.

**Carcinogenicity**

Ethylbenzene has been shown to cause cancer in laboratory animals.

**Information for components:****Acrylic polymer(s)**

No relevant data found.

**Methyl methacrylate**

Did not cause cancer in laboratory animals. Workers exposed during 1933-1945 to very high vapor concentrations of ethyl acrylate and methyl methacrylate, and to volatile by-products of the ethyl acrylate/methyl methacrylate polymerization process, showed an increase in deaths due to colorectal cancer. Such increases were not observed in workers exposed after that time. Although suggestive, these findings do not establish a causal relationship between high level exposure to these acrylates and colorectal cancer.

**Propylene glycol monomethyl ether acetate**

Similar material(s) did not cause cancer in laboratory animals.

**Ethylbenzene**

Ethylbenzene has been shown to cause cancer in laboratory animals. There is no evidence that these findings are relevant to humans.

**Naphtha, light aliphatic**

Did not cause cancer in laboratory animals.

**Hydroxyethyl methacrylate**

Similar material(s) did not cause cancer in laboratory animals.

**Carcinogenicity****Component****Ethylbenzene****List**

IARC

ACGIH

**Classification**

Group 2B: Possibly carcinogenic to humans

A3: Confirmed animal carcinogen with unknown relevance to humans.

**Teratogenicity**

Contains component(s) which, in laboratory animals, have been toxic to the fetus at doses nontoxic to the mother. Contains component(s) which caused birth defects in laboratory animals only at doses toxic to the mother. MMA did not cause birth defects, malformations, or fetal toxicity in pregnant rats inhaling concentrations up to 2028 ppm. The weight of evidence indicates that methyl methacrylate does not cause birth defects in animals.

**Information for components:****Acrylic polymer(s)**

No relevant data found.

**Methyl methacrylate**

MMA did not cause birth defects, malformations, or fetal toxicity in pregnant rats inhaling concentrations up to 2028 ppm. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. The weight of evidence indicates that methyl methacrylate does not cause birth defects in animals.

**Propylene glycol monomethyl ether acetate**

Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

**Ethylbenzene**

Has caused birth defects in laboratory animals only at doses toxic to the mother. Has been toxic to the fetus in lab animals at doses nontoxic to the mother.

**Naphtha, light aliphatic**

Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

**Hydroxyethyl methacrylate**

Screening studies in animals suggest that this material does not affect fetal development.

**Reproductive toxicity**

Contains component(s) which did not interfere with reproduction in animal studies. Contains component(s) which did not interfere with fertility in animal studies.

**Information for components:**

**Acrylic polymer(s)**

No relevant data found.

**Methyl methacrylate**

In animal studies, did not interfere with fertility.

**Propylene glycol monomethyl ether acetate**

In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

**Ethylbenzene**

In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

**Naphtha, light aliphatic**

In animal studies, did not interfere with reproduction.

**Hydroxyethyl methacrylate**

In animal studies, did not interfere with reproduction.

**Mutagenicity**

Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others. Genetic toxicity studies in animals were negative for component(s) tested.

**Information for components:**

**Acrylic polymer(s)**

No relevant data found.

**Methyl methacrylate**

In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

**Propylene glycol monomethyl ether acetate**

In vitro genetic toxicity studies were negative.

**Ethylbenzene**

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

**Naphtha, light aliphatic**

In vitro genetic toxicity studies were negative in some cases and positive in other cases.  
Animal genetic toxicity studies were negative.

**Hydroxyethyl methacrylate**

In vitro genetic toxicity studies were negative in some cases and positive in other cases.  
Animal genetic toxicity studies were negative.

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**12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

**Toxicity****Acrylic polymer(s)****Acute toxicity to fish**

No relevant data found.

**Methyl methacrylate****Acute toxicity to fish**

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

LC50, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 Hour, > 79 mg/l, OECD Test Guideline 203 or Equivalent

LC50, Lepomis macrochirus (Bluegill sunfish), flow-through test, 96 Hour, 233 mg/l, EPA-660-75-009

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna, flow-through test, 48 Hour, 69 mg/l

**Acute toxicity to algae/aquatic plants**

EC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate, > 110 mg/l, OECD Test Guideline 201

NOEC, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, 110 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**

EC50, 14 d, > 100 mg/l

**Chronic toxicity to fish**

NOEC, Danio rerio (zebra fish), 35 d, 9.4 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), 21 d, number of offspring, 37 mg/l



**Propylene glycol monomethyl ether acetate**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).  
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 134 mg/l, Method Not Specified.

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 48 Hour, 408 mg/l, Method Not Specified.

**Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (microalgae), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 201 or Equivalent

**Ethylbenzene**

**Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).  
LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 4.2 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), Static, 48 Hour, 1.8 - 2.4 mg/l

**Acute toxicity to algae/aquatic plants**

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth inhibition (cell density reduction), 3.6 - 4.6 mg/l, OECD Test Guideline 201 or Equivalent

**Toxicity to bacteria**

EC50, Bacteria, 16 Hour, > 12 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Ceriodaphnia dubia (water flea), semi-static test, 7 d, 0.96 mg/l

**Toxicity to soil-dwelling organisms**

LC50, Eisenia fetida (earthworms), 2 d, survival, 0.047 mg/cm<sup>2</sup>

**Naphtha, light aliphatic**

**Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).  
LC50, Pimephales promelas (fathead minnow), semi-static test, 96 Hour, 8.2 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna, static test, 48 Hour, 4.8 mg/l

**Acute toxicity to algae/aquatic plants**

ErC50, Selenastrum capricornutum (green algae), static test, 72 Hour, Growth rate, 3.1 mg/l, OECD Test Guideline 201

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), 21 d, 2.6 mg/l

**Hydroxyethyl methacrylate**

**Acute toxicity to fish**

Material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/L).  
LC50, Oryzias latipes (Orange-red killifish), semi-static test, 96 Hour, > 100 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), static test, 48 Hour, 380 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

EbC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Biomass, 345 mg/l, OECD Test Guideline 201 or Equivalent

ErC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate, 836 mg/l, OECD Test Guideline 201

NOEC, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate, 400 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**

EC0, 16 Hour, > 3,000 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), 21 d, 24.1 mg/l

**Persistence and degradability**

**Acrylic polymer(s)**

**Biodegradability:** No relevant data found.

**Methyl methacrylate**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

10-day Window: Not applicable

**Biodegradation:** 94 %

**Exposure time:** 14 d

**Method:** OECD Test Guideline 301C or Equivalent

10-day Window: Not applicable

**Biodegradation:** > 95 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 302B or Equivalent

**Theoretical Oxygen Demand:** 1.02 mg/mg

**Physico-chemical removability**

Rapidly hydrolyzed under alkaline conditions.

**Photodegradation**

**Test Type:** Half-life (indirect photolysis)

**Sensitization:** OH radicals

**Atmospheric half-life:** 6.997 d

**Method:** Estimated.

**Propylene glycol monomethyl ether acetate**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

10-day Window: Pass

**Biodegradation:** 83 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable

**Biodegradation:** 100 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 302B or Equivalent

**Theoretical Oxygen Demand:** 1.82 mg/mg

### Ethylbenzene

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

**Biodegradation:** 100 %

**Exposure time:** 6 d

**Method:** OECD Test Guideline 301E or Equivalent

**Theoretical Oxygen Demand:** 3.17 mg/mg Estimated.

**Chemical Oxygen Demand:** 2.62 mg/mg Dichromate

### **Biological oxygen demand (BOD)**

Incubation Time	BOD
5 d	31.5 %
10 d	38.5 %
20 d	45.4 %

### **Photodegradation**

**Sensitization:** OH radicals

**Atmospheric half-life:** 55 Hour

**Method:** Estimated.

### Naphtha, light aliphatic

**Biodegradability:** No relevant data found.

### Hydroxyethyl methacrylate

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

**Biodegradation:** 92 - 100 %

**Exposure time:** 14 d

**Method:** OECD Test Guideline 301C or Equivalent

10-day Window: Pass

**Biodegradation:** 97 - 99 %

**Exposure time:** 10 d

**Method:** OECD Test Guideline 301E or Equivalent

**Bioaccumulative potential****Acrylic polymer(s)**

**Bioaccumulation:** No relevant data found.

**Methyl methacrylate**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 1.38 Measured

**Propylene glycol monomethyl ether acetate**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 1.2 Measured

**Ethylbenzene**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 3.15 Measured

**Bioconcentration factor (BCF):** 15 Fish Measured

**Naphtha, light aliphatic**

**Bioaccumulation:** No relevant data found.

**Hydroxyethyl methacrylate**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 0.42 at 25 °C

**Bioconcentration factor (BCF):** 1.34 - 1.54 Fish Calculated.

**Mobility in soil****Acrylic polymer(s)**

No relevant data found.

**Methyl methacrylate**

Potential for mobility in soil is high (Koc between 50 and 150).

**Partition coefficient (Koc):** 87 Estimated.

**Propylene glycol monomethyl ether acetate**

Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition coefficient (Koc):** 1.7 Estimated.

**Ethylbenzene**

Potential for mobility in soil is low (Koc between 500 and 2000).

**Partition coefficient (Koc):** 518 Estimated.

**Naphtha, light aliphatic**

No relevant data found.

**Hydroxyethyl methacrylate**

No relevant data found.

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### 13. DISPOSAL CONSIDERATIONS

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**Disposal methods:** For disposal, incinerate or landfill at a permitted facility in accordance with local, state, and federal regulations (see 40 CFR Part 268).

**Contaminated packaging:** Empty containers retain product residues. Follow label warnings even after container is emptied. Improper disposal or reuse of this container may be dangerous and illegal. Refer to applicable federal, state and local regulations.

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### 14. TRANSPORT INFORMATION

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#### DOT

<b>Proper shipping name</b>	Resin solution
<b>UN number</b>	UN 1866
<b>Class</b>	3
<b>Packing group</b>	III
<b>Reportable Quantity</b>	Ethylbenzene

#### Classification for SEA transport (IMO-IMDG):

<b>Proper shipping name</b>	RESIN SOLUTION
<b>UN number</b>	UN 1866
<b>Class</b>	3
<b>Packing group</b>	III
<b>Marine pollutant</b>	No
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

#### Classification for AIR transport (IATA/ICAO):

<b>Proper shipping name</b>	Resin solution
<b>UN number</b>	UN 1866
<b>Class</b>	3
<b>Packing group</b>	III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## 15. REGULATORY INFORMATION

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### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Flammable (gases, aerosols, liquids, or solids)  
 Respiratory or skin sensitisation  
 Specific target organ toxicity (single or repeated exposure)  
 Skin corrosion or irritation

### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

Components	CASRN
Ethylbenzene	100-41-4
Methyl methacrylate	80-62-6

### Pennsylvania

Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.

### California Prop. 65

WARNING: This product can expose you to chemicals including Ethylbenzene, which is/are known to the State of California to cause cancer, and Toluene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

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## 16. OTHER INFORMATION

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### Hazard Rating System

#### HMIS

Health	Flammability	Physical Hazard
2*	3	0

\* = Chronic Effects (See Hazards Identification)

### Revision

Identification Number: 10078241 / 1001 / Issue Date: 02/25/2020 / Version: 3.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

### Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)
CAL PEL	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

Dow IHG	Dow Industrial Hygiene Guideline
OSHA P0	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
PEL	Permissible exposure limit
STEL	Short term exposure limit
TWA	Time weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

#### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

#### Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY\* urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here

pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

US