



SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY*

Product name: PARALOID™ AU-608X Resin

Issue Date: 02/25/2020

Print Date: 02/27/2020

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.

1. IDENTIFICATION

Product name: PARALOID™ AU-608X Resin

Recommended use of the chemical and restrictions on use

Identified uses: This product is used in coatings, textiles, binders and adhesives.

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

2. HAZARDS IDENTIFICATION

Hazard classification

GHS classification in accordance with 29 CFR 1910.1200

Flammable liquids - Category 3

Skin irritation - Category 2

Eye irritation - Category 2A

Specific target organ toxicity - single exposure - Category 3

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

Aspiration hazard - Category 1

Label elements

Hazard pictograms



Signal word: **DANGER!**

Hazards

Flammable liquid and vapour.

May be fatal if swallowed and enters airways.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

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.

Wear protective gloves/ eye protection/ face protection.

Response

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Get medical advice/ attention if you feel unwell.

Do NOT induce vomiting.

If skin irritation occurs: Get medical advice/ attention.

If eye irritation persists: Get medical advice and/or 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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Polymers, solvent based

This product is a mixture.

Component	CASRN	Concentration
Acrylic polymer(s)	Not hazardous	>= 57.0 - 59.0 %
Individual residual monomers	Not required	<= 0.8 %
Xylene	1330-20-7	>= 33.0 - 35.0 %
Ethylbenzene	100-41-4	>= 6.0 - 8.0 %
Naphtha, petroleum, heavy alkylate	64741-65-7	1.0 - 3.0 %
Butyl methacrylate	97-88-1	< 0.8 %
Hydroxyethyl Acrylate	818-61-1	< 0.2 %

4. FIRST AID MEASURES

Description of first aid measures

Inhalation: Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. If symptoms persist, call a physician. Consult a physician after significant exposure.

Skin contact: Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Ingestion: Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position. Drink 1 or 2 glasses of water. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. Call a physician immediately.

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: Risk of product entering the lungs on vomiting after ingestion. In case of ingestion, the stomach should be emptied by gastric lavage under qualified medical supervision.

Exposure to xylene can affect the CNS, pulmonary, cardiovascular, and gastrointestinal systems. Liver enzymes, EKG, serum electrolytes, and a chest X-ray should be done in cases of massive exposure. Later control for pneumonia and lung oedema.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Foam. Carbon dioxide (CO₂). Dry powder. Water spray.

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: Vapors can travel to a source of ignition and flash back.. Heated material can form flammable or explosive vapors with air.. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat..

Advice for firefighters

Fire Fighting Procedures: For safety reasons in case of fire, containers should be stored separately in closed containments.. Cool closed containers exposed to fire with water spray..

Special protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.

Environmental precautions: Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning up: Evacuate personnel to safe areas. Remove all sources of ignition. Ensure adequate ventilation. Material can create slippery conditions. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling: Provide sufficient air exchange and/or exhaust in work rooms. Avoid exceeding the given occupational exposure limits (see section 8). In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes. Do not breathe vapours or spray mist. Wear personal protective equipment. For personal protection see section 8. 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: Material can burn; limit indoor storage to approved areas equipped with automatic sprinklers. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Electrical installations / working materials must comply with the technological safety standards.

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
Xylene	OSHA Z-1	TWA	435 mg/m3 100 ppm
	Further information: (b): The value in mg/m3 is approximate.		
	ACGIH	TWA	100 ppm
	Further information: CNS impair: Central Nervous System impairment; URT irr: Upper Respiratory Tract irritation; eye irr: Eye irritation; BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section); A4: Not classifiable as a human carcinogen		
	ACGIH	STEL	150 ppm
	Further information: CNS impair: Central Nervous System impairment; URT irr: Upper Respiratory Tract irritation; eye irr: Eye irritation; BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section); A4: Not classifiable as a human carcinogen		
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, petroleum, heavy alkylate	OSHA Z-1	TWA	2,000 mg/m3 500 ppm
	Further information: (b): The value in mg/m3 is approximate.		
	Dow IHG	TWA	50 ppm
Butyl methacrylate	Dow IHG	STEL	75 ppm
	Dow IHG	TWA	0.5 ppm
Hydroxyethyl Acrylate	Further information: SKIN, DSEN: Absorbed via Skin, Skin Sensitizer		
	Dow IHG	STEL	1.5 ppm
	Further information: SKIN, DSEN: Absorbed via Skin, Skin Sensitizer		

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Xylene	1330-20-7	Methylhippuric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/g creatinine	ACGIH BEI
Ethylbenzene	100-41-4	Sum of mandelic	Urine	End of shift (As	0.15 g/g creatinine	ACGIH BEI

acid and phenyl glyoxylic acid	soon as possible after exposure ceases)
---	---

Exposure controls

Engineering controls: Use explosion-proof local exhaust ventilation with a minimum capture velocity of 100 ft/min (0.5 m/sec) at the point of vapor evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Hygiene measures: Wash hands before breaks and immediately after handling the product.

Individual protection measures

Eye/face protection: Tightly fitting safety goggles. Eye protection worn must be compatible with respiratory protection system employed.

Skin protection

Hand protection: Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation.

(Gloves of other chemically resistant materials may not provide adequate protection): 4H Glove (Trademark of Safety 4 A/S of Denmark) Norfoil (Trademark of Siebe North, Inc.) Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Before removing gloves clean them with soap and water.

Other protection: Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.

Respiratory protection: A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Up to 10 times the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) half-mask, air-purifying respirator. Up to 1000 ppm organic vapor: Wear a properly fitted NIOSH approved (or equivalent) full-facepiece, air-purifying respirator, OR full-facepiece, airline respirator in the pressure demand mode. Above 1000 ppm organic vapor or Unknown: Wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode, OR full-facepiece, airline respirator in the pressure demand mode with emergency escape provision. Air-purifying respirators should be equipped with NIOSH approved (or equivalent) organic vapor cartridges and N95 filters. If oil mist is present, use R95 or P95 filters.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	liquid clear
Color	yellow
Odor	Aromatic odor
Odor Threshold	No data available
pH	Not Applicable
Melting point/range	No data available

Freezing point	No data available
Boiling point (760 mmHg)	144.00 °C (291.20 °F) Initial
Flash point	closed cup 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	1.10 % vol estimated
Upper explosion limit	7.00 % vol estimated
Vapor Pressure	10.6657920 Pa at 20.00 °C (68.00 °F) estimated
Relative Vapor Density (air = 1)	>1.0000
Relative Density (water = 1)	1.0000
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 - 8,500.000 mPa.s
Kinematic Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	No data available
Percent volatility	41.000 - 43.000 %

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

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: No data available

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use. Product will not undergo polymerization. Stable under recommended storage conditions.

Conditions to avoid: Heat, flames and sparks.

Incompatible materials: No data available

Hazardous decomposition products: No decomposition if stored and applied as directed.. Heating or fire conditions liberates toxic gas.. Decomposition products can include and are not limited to:. Carbon oxides.

11. TOXICOLOGICAL INFORMATION

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

Information on likely routes of exposure

Inhalation, Eye contact, Skin contact, Dermal Absorption.

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

Acute oral toxicity

Product test data not available.

Information for components:

Acrylic polymer(s)

Single dose oral LD50 has not been determined.

Xylene

LD50, Rat, 4,300 mg/kg

Ethylbenzene

LD50, Rat, 3,500 mg/kg

Naphtha, petroleum, heavy alkylate

Single dose oral LD50 has not been determined.

Butyl methacrylate

LD50, Rat, male and female, > 2,000 mg/kg OECD Test Guideline 401 No deaths occurred at this concentration.

Hydroxyethyl Acrylate

LD50, Rat, male and female, 960.5 mg/kg

Acute dermal toxicity

Product test data not available.

Information for components:

Acrylic polymer(s)

The dermal LD50 has not been determined.

Xylene

LD50, Rabbit, > 2,000 mg/kg

Ethylbenzene

LD50, Rabbit, 15,500 mg/kg

Naphtha, petroleum, heavy alkylate

The dermal LD50 has not been determined.

Butyl methacrylate

LD50, Rabbit, male and female, > 2,000 mg/kg OECD Test Guideline 402

Hydroxyethyl Acrylate

LD50, Rat, male and female, > 1,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

Product test data not available.

Information for components:

Acrylic polymer(s)

The LC50 has not been determined.

Xylene

LC50, Rat, 4 Hour, vapour, 27.5 mg/l

Ethylbenzene

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

Naphtha, petroleum, heavy alkylate

The LC50 has not been determined.

Butyl methacrylate

Prolonged exposure is not expected to cause adverse effects. Vapor may cause irritation of the upper respiratory tract (nose and throat).

LC50, Rat, male and female, 4 Hour, dust/mist, 29 mg/l OECD Test Guideline 403

Hydroxyethyl Acrylate

The LC50 has not been determined.

Skin corrosion/irritation

Product test data not available.

Information for components:

Acrylic polymer(s)

Essentially nonirritating to skin.

Xylene

Prolonged contact may cause skin irritation with local redness.

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

Vapor may cause skin irritation.

May cause drying and flaking of the skin.

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, petroleum, heavy alkylate

For similar material(s):

Brief contact is essentially nonirritating to skin.

Prolonged or repeated exposure may cause defatting of the skin leading to drying or flaking of skin.

Butyl methacrylate

Brief contact may cause moderate skin irritation with local redness.

Hydroxyethyl Acrylate

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

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

Serious eye damage/eye irritation

Product test data not available.

Information for components:

Acrylic polymer(s)

Essentially nonirritating to eyes.

Xylene

May cause moderate eye irritation.

May cause slight temporary corneal injury.

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

Ethylbenzene

May cause moderate eye irritation.

Vapor may cause lacrimation (tears).

Naphtha, petroleum, heavy alkylate

Based on data from similar materials

May cause slight temporary eye irritation.

Corneal injury is unlikely.

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

Butyl methacrylate

May cause slight eye irritation.

Corneal injury is unlikely.

Hydroxyethyl Acrylate

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

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

Sensitization

Product test data not available.

Information for components:

Acrylic polymer(s)

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Xylene

For skin sensitization:
No relevant data found.

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, petroleum, heavy alkylate

For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

Butyl methacrylate

Skin contact may cause an allergic skin reaction.

For respiratory sensitization:
No relevant data found.

Hydroxyethyl Acrylate

Has caused allergic skin reactions in humans.
Has caused allergic skin reactions when tested in guinea pigs.
Has demonstrated the potential for contact allergy in mice.
Individuals having an allergic skin reaction to this product may have an allergic skin reaction to similar material(s).
Hydroxyethyl methacrylate.
2-Hydroxypropyl methacrylate.
2-Hydroxyethyl acrylate.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Product test data not available.

Information for components:

Acrylic polymer(s)

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

Xylene

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

Ethylbenzene

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

Naphtha, petroleum, heavy alkylate

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

Butyl methacrylate

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

Hydroxyethyl Acrylate

Material is corrosive. Material is not classified as a respiratory irritant; however, upper respiratory tract irritation or corrosivity may be expected.

Aspiration Hazard

Product test data not available.

Information for components:

Acrylic polymer(s)

No aspiration toxicity classification

Xylene

May be fatal if swallowed and enters airways.

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, petroleum, heavy alkylate

May be fatal if swallowed and enters airways.

Butyl methacrylate

Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

Hydroxyethyl Acrylate

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)

Product test data not available.

Information for components:

Acrylic polymer(s)

No relevant data found.

Xylene

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

Liver
kidney
Blood

Xylene is reported to have caused hearing loss in laboratory animals upon exposure to high concentrations; such effects have not been reported in humans.

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, petroleum, heavy alkylate

For similar material(s):

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Butyl methacrylate

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Hydroxyethyl Acrylate

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Carcinogenicity

Product test data not available.

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

No relevant data found.

Xylene

Xylene was not found to be carcinogenic in a National Toxicology Program bioassay in rats and mice.

Ethylbenzene

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

Naphtha, petroleum, heavy alkylate

For similar material(s): Did not cause cancer in laboratory animals.

Butyl methacrylate

For similar material(s): Did not cause cancer in laboratory animals.

Hydroxyethyl Acrylate

Did not cause cancer in laboratory animals.

Carcinogenicity**Component**

Ethylbenzene

List

IARC

Classification

Group 2B: Possibly carcinogenic to humans

	ACGIH	A3: Confirmed animal carcinogen with unknown relevance to humans.
Naphtha, petroleum, heavy alkylate	IARC	Group 2B: Possibly carcinogenic to humans

Teratogenicity

Product test data not available.

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

No relevant data found.

Xylene

Exaggerated doses of xylene given orally to pregnant mice resulted in an increase in cleft palate, a common developmental abnormality in mice. In animal inhalation studies, xylene caused toxicity to the fetus but did not cause birth defects. Available data are inadequate for evaluation of maternal toxicity.

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.

Butyl methacrylate

Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Hydroxyethyl Acrylate

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

Reproductive toxicity

Product test data not available.

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

No relevant data found.

Xylene

In animal studies, did not interfere with reproduction.

Ethylbenzene

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

Butyl methacrylate

In animal studies, a similar material has been shown not to interfere with reproduction.

Hydroxyethyl Acrylate

Based on analogy. In animal studies, did not interfere with reproduction.

Mutagenicity

Product test data not available.

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

No relevant data found.

Xylene

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

Ethylbenzene

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

Butyl methacrylate

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

Hydroxyethyl Acrylate

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

Additional information

No toxicity data are available for this material.

12. ECOLOGICAL INFORMATION

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

General Information

There is no data available for this product.

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

No relevant data found.

Xylene**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, 2.6 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

IC50, Daphnia magna (Water flea), 24 Hour, 1 - 4.7 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (algae), Static, 73 Hour, Growth rate, 4.36 mg/l, OECD Test Guideline 201 or Equivalent

NOEC, Pseudokirchneriella subcapitata (green algae), 73 Hour, Growth rate, 0.44 mg/l, OECD Test Guideline 201 or Equivalent

Chronic toxicity to fish

NOEC, Oncorhynchus mykiss (rainbow trout), flow-through, 56 d, mortality, > 1.3 mg/l

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/cm²

Naphtha, petroleum, heavy alkylate

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).

LL50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 1,000 mg/l

Acute toxicity to aquatic invertebrates

EL50, Daphnia magna (Water flea), 48 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

EL50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 1,000 mg/l, OECD Test Guideline 201 or Equivalent

Chronic toxicity to aquatic invertebrates

NOELR, Daphnia magna, 21 d, > 0.1 - 1 mg/l

NOELR, Daphnia magna, 21 d, < 1 mg/l

Butyl methacrylate

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), flow-through test, 96 Hour, 11 mg/l, OECD Test Guideline 203

Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).

LC50, Oryzias latipes (Japanese medaka), semi-static test, 96 Hour, 5.57 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), static test, 48 Hour, 25.4 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (algae), static test, 72 Hour, Growth rate, 31.2 mg/l, OECD Test Guideline 201

NOEC, Pseudokirchneriella subcapitata (algae), static test, 72 Hour, Growth rate, 24.8 mg/l, OECD Test Guideline 201

Toxicity to bacteria

EC10, Pseudomonas putida, 18 Hour, 253.6 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia (water flea), semi-static test, 21 d, 1.1 mg/l

Hydroxyethyl Acrylate

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), flow-through test, 96 Hour, 4.8 mg/l, OECD Test Guideline 203 or Equivalent

LC50, Oryzias latipes (Orange-red killifish), static test, 96 Hour, 6.5 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), 48 Hour, 5.2 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, 6 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

EC10, Bacteria (active sludge), 72 Hour, Respiration rates., > 100 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna, semi-static test, 21 d, number of offspring, 0.48 mg/l

Persistence and degradability

Acrylic polymer(s)

Biodegradability: No relevant data found.

Xylene

Biodegradability: Material is expected to be readily biodegradable.

10-day Window: Pass

Biodegradation: > 60 %

Exposure time: 10 d

Method: OECD Test Guideline 301F or Equivalent

Theoretical Oxygen Demand: 3.17 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	37.000 %
10 d	58.000 %
20 d	72.000 %

Photodegradation**Test Type:** Half-life (indirect photolysis)**Sensitization:** OH radicals**Atmospheric half-life:** 19.7 Hour**Method:** Estimated.**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, petroleum, heavy alkylate****Biodegradability:** Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

Biodegradation: 8 - 22 %**Exposure time:** 28 d**Method:** OECD Test Guideline 301D or Equivalent**Theoretical Oxygen Demand:** 3.48 mg/mg**Photodegradation****Test Type:** Half-life (indirect photolysis)**Sensitization:** OH radicals**Atmospheric half-life:** 0.855 d

Method: Estimated.

Butyl methacrylate

Biodegradability: 10-day Window: Not applicable

Biodegradation: 88 %

Exposure time: 28 d

Method: OECD Test Guideline 301C

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

Hydroxyethyl Acrylate

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

10-day Window: Pass

Biodegradation: 79 %

Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	22 %
10 d	33 %
20 d	47 %

Physico-chemical removability

Rapidly hydrolyzed under alkaline conditions.

Bioaccumulative potential

Acrylic polymer(s)

Bioaccumulation: No relevant data found.

Xylene

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

Partition coefficient: n-octanol/water(log Pow): 3.12 Measured

Bioconcentration factor (BCF): 25.9 Rainbow trout (Salmo gairdneri) 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, petroleum, heavy alkylate

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Partition coefficient: n-octanol/water(log Pow): 5.67 Estimated.

Bioconcentration factor (BCF): 460 Fish Estimated.

Butyl methacrylate

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

Partition coefficient: n-octanol/water(log Pow): 3 at 25 °C Estimated.

Bioconcentration factor (BCF): 70 Fish Calculated.

Hydroxyethyl Acrylate**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).**Partition coefficient: n-octanol/water(log Pow):** -0.21 Measured**Mobility in soil****Acrylic polymer(s)**

No relevant data found.

Xylene

Potential for mobility in soil is medium (Koc between 150 and 500).

Partition coefficient (Koc): 443 Estimated.**Ethylbenzene**

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

Partition coefficient (Koc): 518 Estimated.**Naphtha, petroleum, heavy alkylate**

Potential for mobility in soil is slight (Koc between 2000 and 5000).

Partition coefficient (Koc): 2700 Estimated.**Butyl methacrylate**

For similar material(s):

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

Partition coefficient (Koc): 2760 Estimated.**Hydroxyethyl Acrylate**

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

Partition coefficient (Koc): 1 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: For disposal, incinerate this material at a facility that complies with local, state, and federal regulations.**Contaminated packaging:** Do not re-use empty containers. Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Resin solution
UN number	UN 1866
Class	3
Packing group	III
Reportable Quantity	Xylene

Classification for SEA transport (IMO-IMDG):

Proper shipping name	RESIN SOLUTION
-----------------------------	----------------

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

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Resin solution
UN number	UN 1866
Class	3
Packing group	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.

15. REGULATORY INFORMATION

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)
 Skin corrosion or irritation
 Serious eye damage or eye irritation
 Specific target organ toxicity (single or repeated exposure)
 Aspiration hazard

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
Xylene	1330-20-7
Ethylbenzene	100-41-4

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 (Proposition 65)

This product contains a component or components known to the state of California to cause cancer:

Components	CASRN
-------------------	--------------

Ethylbenzene

100-41-4

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.

16. OTHER INFORMATION

Hazard Rating System**HMIS**

Health	Flammability	Physical Hazard
3*	3	0

* = Chronic Effects (See Hazards Identification)

Revision

Identification Number: 10077654 / 1001 / Issue Date: 02/25/2020 / Version: 7.0

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)
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
STEL	Short term exposure limit
TWA	Time weighted average

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