



Poly(acrylic acid), 25% soln. in water [Mw ~345,000]

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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Version: 2.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : Poly(acrylic acid), 25% soln. in water [Mw ~345,000]
Product code : 03326
Formula : nav

1.2. Recommended use and restrictions on use

Recommended use : Use as laboratory reagent, Manufacture of substances

1.3. Supplier

Supplier

Polysciences
400 Valley Road
Warrington, PA 18976 - United States
T +1 215 343 6484 - F +1 215 343 0214
info@polysciences.com - www.polysciences.com

1.4. Emergency telephone number

Emergency number : 24-hour emergency phone number ChemTel 1-800-255-3924

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Water	(CAS-No.) 7732-18-5	75	Not classified
2-Propenoic acid, homopolymer	(CAS-No.) 9003-01-4	19	Not classified
1,3-Butadiene	(CAS-No.) 106-99-0	0 – 0.5	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Muta. 1B, H340 Carc. 1A, H350 Aquatic Acute 3, H402
4-Vinylcyclohexene	(CAS-No.) 100-40-3	0 – 0.5	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Dam. 1, H318 Carc. 2, H351 Repr. 2, H361 STOT RE 1, H372 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412

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Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Wash skin with plenty of water.
- First-aid measures after eye contact : Rinse eyes with water as a precaution.
- First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

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

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

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

5.3. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Collect spillage.
- Methods for cleaning up : Take up liquid spill into absorbent material.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store at room temp. Keep cool. Store in a well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

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1,3-Butadiene (106-99-0)	
USA - ACGIH - Occupational Exposure Limits	
Local name	1,3-Butadiene
ACGIH TWA (ppm)	2 ppm
Remark (ACGIH)	TLV® Basis: Cancer. Notations: A2 (Suspected Human Carcinogen)
ACGIH chemical category	Suspected Human Carcinogen
Regulatory reference	ACGIH 2020
USA - ACGIH - Biological Exposure Indices	
Local name	1,3-BUTADIENE
Biological Exposure Indices (BEI)	2.5 mg/l Parameter: 1,2-Dihydroxy-4-(N-acetylcysteinyl)-butane - Medium: urine - Sampling time: end of shift (background, semi-quantitative) 2.5 pmol/g hemoglobin Parameter: Mixture of N-1 and N-2-(hydroxybutenyl)valine hemoglobin adducts - Medium: blood - Sampling time: not critical (semi-quantitative)
Regulatory reference	ACGIH 2020
USA - OSHA - Occupational Exposure Limits	
Local name	Butadiene (1,3-Butadiene); See 29 CFR 1910.1051; 29 CFR 1910.19(1)
OSHA PEL (TWA) (ppm)	1 ppm
OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1051)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
US IDLH (ppm)	2000 ppm (10% LEL)
4-Vinylcyclohexene (100-40-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	4-Vinyl cyclohexene
ACGIH TWA (ppm)	0.1 ppm
Remark (ACGIH)	TLV® Basis: Female & male repro dam. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
Regulatory reference	ACGIH 2020
USA - AIHA - Occupational Exposure Limits	
WEEL TWA [ppm]	1 ppm
2-Propenoic acid, homopolymer (9003-01-4)	
No additional information available	
Water (7732-18-5)	
No additional information available	

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear, colorless liquid.
Color	: clear
Odor	: There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: aromatic gasoline-like
Odor threshold	: No data available
pH	: 2 – 2.5
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: > 100 °C
Flash point	: no data
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: no data
Relative vapor density at 20°C	: no data
Relative density	: 1.08
Solubility	: completely soluble.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

VOC content : < %

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

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

Poly(acrylic acid), 25% soln. in water [Mw ~345,000]	
LD50 oral rat	> 16 g/kg

1,3-Butadiene (106-99-0)	
LD50 oral rat	5480 mg/kg
LC50 Inhalation - Rat	285 g/m ³ (Exposure time: 4 h)

4-Vinylcyclohexene (100-40-3)	
LD50 oral rat	2600 mg/kg
LD50 dermal rabbit	17000 mg/kg
LC50 Inhalation - Rat [ppm]	< 8000 ppm/4h

2-Propenoic acid, homopolymer (9003-01-4)	
LD50 oral rat	2500 mg/kg

Skin corrosion/irritation : Not classified
pH: 2 – 2.5
Serious eye damage/irritation : Not classified
pH: 2 – 2.5
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

1,3-Butadiene (106-99-0)	
IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	Known Human Carcinogens
In OSHA Hazard Communication Carcinogen list	Yes
In OSHA Specifically Regulated Carcinogen list	Yes

4-Vinylcyclohexene (100-40-3)	
IARC group	2B - Possibly carcinogenic to humans
In OSHA Hazard Communication Carcinogen list	Yes

2-Propenoic acid, homopolymer (9003-01-4)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

4-Vinylcyclohexene (100-40-3)	
NOAEL (animal/female, F0/P)	≤ 800 mg/kg body weight Animal: mouse, Animal sex: female, Remarks on results: not determinable

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

4-Vinylcyclohexene (100-40-3)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified
Viscosity, kinematic : No data available

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

1,3-Butadiene (106-99-0)

LC50 fish 1	45 mg/l Test organisms (species): Pimephales promelas
EC50 Daphnia 1	33 mg/l Test organisms (species): Daphnia magna

2-Propenoic acid, homopolymer (9003-01-4)

LC50 fish 1	580 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
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12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

1,3-Butadiene (106-99-0)

BCF fish 1	13 – 19.1
Partition coefficient n-octanol/water (Log Pow)	1.85 (at 23 °C)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

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

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not applicable

Transportation of Dangerous Goods

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

1,3-Butadiene (106-99-0)

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

CERCLA RQ	10 lb
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4-Vinylcyclohexene (100-40-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
2-Propenoic acid, homopolymer (9003-01-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).
Water (7732-18-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. International regulations

CANADA

1,3-Butadiene (106-99-0)	
Listed on the Canadian DSL (Domestic Substances List)	
Toxic Substance (CEPA – Schedule I)	Yes
4-Vinylcyclohexene (100-40-3)	
Listed on the Canadian DSL (Domestic Substances List)	
2-Propenoic acid, homopolymer (9003-01-4)	
Listed on the Canadian DSL (Domestic Substances List)	
Water (7732-18-5)	
Listed on the Canadian DSL (Domestic Substances List)	

EU-Regulations

1,3-Butadiene (106-99-0)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	
4-Vinylcyclohexene (100-40-3)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	

National regulations

1,3-Butadiene (106-99-0)	
Listed on IARC (International Agency for Research on Cancer)	
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)	
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)	
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory	
Listed on the Japanese ISHL (Industrial Safety and Health Law)	
Listed on KECL/KECI (Korean Existing Chemicals Inventory)	
Listed on NZIoC (New Zealand Inventory of Chemicals)	
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)	
Japanese Pollutant Release and Transfer Register Law (PRTR Law)	
Listed as carcinogen on NTP (National Toxicology Program)	
Listed on INSQ (Mexican National Inventory of Chemical Substances)	
Listed on CICR (Turkish Inventory and Control of Chemicals)	
Listed on the TCSI (Taiwan Chemical Substance Inventory)	
4-Vinylcyclohexene (100-40-3)	
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)	
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)	
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory	
Listed on the Japanese ISHL (Industrial Safety and Health Law)	
Listed on KECL/KECI (Korean Existing Chemicals Inventory)	
Listed on NZIoC (New Zealand Inventory of Chemicals)	
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)	
Japanese Pollutant Release and Transfer Register Law (PRTR Law)	
Listed on the TCSI (Taiwan Chemical Substance Inventory)	

15.3. US State regulations

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1,3-Butadiene (106-99-0)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	Yes	Yes	0.4 µg/day	
4-Vinylcyclohexene (100-40-3)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	Yes	No		

Component	State or local regulations
1,3-Butadiene(106-99-0)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List; U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances; U.S. - Pennsylvania - RTK (Right to Know) List
4-Vinylcyclohexene(100-40-3)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Revision date	: 11/19/2020	
NFPA health hazard	: 1 - Materials that, under emergency conditions, can cause significant irritation.	
NFPA fire hazard	: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.	
NFPA reactivity	: 0 - Material that in themselves are normally stable, even under fire conditions.	
Hazard Rating		
Health	: 1 Slight Hazard - Irritation or minor reversible injury possible	
Flammability	: 0 Minimal Hazard - Materials that will not burn	
Physical	: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.	
Personal protection	: B B - Safety glasses, Gloves	

Indication of changes:

Section	Changed item	Change	Comments
2	Color (SDS US)	Removed	

SDS US (GHS HazCom 2012)

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