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1. Identification

Product identifier used on the label

METHYL ACRYLATE

Recommended use of the chemical and restriction on use

Recommended use*: Monomer.

Details of the supplier of the safety data sheet

Company: BASF CORPORATION 100 Park Avenue Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Molecular formula: C4 H6 O2

Synonyms: Acrylic acid, methyl ester

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Flam. Liq. 2 Flammable liquids
Acute Tox. 3 (Inhalation - vapour) Acute toxicity
Acute Tox. 4 (oral) Acute toxicity
Acute Tox. 4 (dermal) Acute toxicity

Skin Corr./Irrit. 2 Skin corrosion/irritation

Eye Dam./Irrit. 2A Serious eye damage/eye irritation

Skin Sens. 1B Skin sensitization

STOT SE 3 (irritating to Specific target organ toxicity — single exposure

^{*} The "Recommended use" identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

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respiratory system)

Aquatic Acute 2 Hazardous to the aquatic environment - acute Aquatic Chronic 3 Hazardous to the aquatic environment - chronic

Label elements

Pictogram:



Signal Word: Danger

Hazard Statement:

H225
Highly flammable liquid and vapour.
H319
Causes serious eye irritation.
H315
Causes skin irritation.
H312
Harmful in contact with skin.
H331
Toxic if inhaled.

H331 I oxic if inhaled.
H302 Harmful if swallowed.

H317 May cause an allergic skin reaction. H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

H401 Toxic to aquatic life.

Precautionary Statements (Prevention):

P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves and eye/face protection.

P210 Keep away from heat, hot surfaces, sparks, open flames and other

ignition sources. No smoking.

P260 Do not breathe dust/gas/mist/vapours.

P243 Take precautionary measures against static discharge.

P273 Avoid release to the environment.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P272 Contaminated work clothing should not be allowed out of the workplace.

P264 Wash with plenty of water and soap thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P242 Use only non-sparking tools.

P240 Ground/bond container and receiving equipment.

Precautionary Statements (Response):

P333 + P311 If skin irritation or rash occurs: Call a POISON CENTER or

doctor/physician.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for

breathing.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water/shower.

P303 + P352 IF ON SKIN (or hair): Wash with plenty of soap and water.

P361 Take off immediately all contaminated clothing.

P301 + P330 IF SWALLOWED: rinse mouth.

P332 + P313 If skin irritation occurs: Get medical advice/attention.

P337 + P311 If eye irritation persists: Call a POISON CENTER or doctor/physician.

P370 + P378 In case of fire: Use... to extinguish.

Precautionary Statements (Storage):

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P403 + P235 Store in a well-ventilated place. Keep cool.

P233 Keep container tightly closed.

P405 Store locked up.

Precautionary Statements (Disposal):

P501 Dispose of contents/container to hazardous or special waste collection

point.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. See section 12 - Results of PBT and vPvB assessment.

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Emergency overview

WARNING:

IRRITANT.

HIGHLY TOXIC - INHALATION.

Reactive flammable.

Harmful by inhalation, in contact with skin and if swallowed.

Irritating to eyes, respiratory system and skin.

Ensure adequate ventilation.

Wear a NIOSH-certified (or equivalent) organic vapour respirator.

Wear NIOSH-certified chemical goggles.

Wear protective clothing.

Eye wash fountains and safety showers must be easily accessible.

Wear full face shield if splashing hazard exists.

Wear chemical resistant protective gloves.

Avoid inhalation of gases.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

 CAS Number
 Content (W/W)
 Chemical name

 96-33-3
 >= 99.8 %
 methyl acrylate

 150-76-5
 <= 20.0 PPM</td>
 MEHQ

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

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If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

If on skin:

Flush with copious amounts of water for at least 15 minutes. Immediate medical attention required.

If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Immediately rinse mouth and then drink plenty of water, do not induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause:, vomiting, nausea, headache, dizziness Hazards: No hazard is expected under intended use and appropriate handling.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary odema.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media: carbon dioxide, dry powder, water spray, foam

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

Risk of violent self-polymerization if overheated in a container.

Advice for fire-fighters

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Vapours are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition. Fight fire from maximum distance.

Impact Sensitivity:

Remarks: Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Further accidental release measures:

Release of substance/product can cause fire or explosion. Blanket with firefighting foam.

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Personal precautions, protective equipment and emergency procedures

Take appropriate protective measures.

Ensure adequate ventilation. Use personal protective clothing. Breathing protection required.

Environmental precautions

Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Substance/product is RCRA hazardous due to its properties.

Methods and material for containment and cleaning up

Spills should be contained, solidified, and placed in suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. The substance/ product may be handled only by appropriately trained personnel. Facility parts must be checked for polymer residues and cleaned on regular basis in order to avoid hazardous reactions.

Protection against fire and explosion:

Heated containers should be cooled to prevent polymerization. If exposed to fire, keep containers cool by spraying with water. Emergency cooling must be provided for the eventuality of a fire in the vicinity. Sealed containers should be protected against heat as this results in pressure build-up. Avoid influence of heat.

Conditions for safe storage, including any incompatibilities

No applicable information available.

Further information on storage conditions: Risk of polymerization. Protect against heat. Protect from direct sunlight. Protect contents from the effects of light. Avoid UV-light and other radiation with high energy. Protect against contamination.

Even if the product is stored and handled as prescribed/indicated it should be used up within the indicated duration of storage.

Risk of polymerization. Protect from direct sunlight.

Storage stability:

This product should be processed as soon as possible.

Ensure adequate inhibitor and dissolved oxygen level.

The product is stabilized, the shelf life should be noted.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

methyl acrylate OSHA PEL PEL 10 ppm 35 mg/m3; Skin Designation;

The substance can be absorbed through the skin. TWA value 10 ppm 35 mg/m3; SKIN_FINAL; The substance can be absorbed through the skin.

ACGIH TLV TWA value 2 ppm; Skin Designation;

The substance can be absorbed through the skin.

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MEHQ OSHA PEL TWA value 5 mg/m3 ;

ACGIH TLV TWA value 5 mg/m3;

Advice on system design:

Provide local exhaust ventilation to maintain recommended P.E.L.

Personal protective equipment

Respiratory protection:

Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator as needed. At concentrations < 250 ppm, use a chemical cartridge respirator. At concentrations > 250 ppm, use an air-supplied or self-contained breathing apparatus.

Hand protection:

Chemical resistant protective gloves

Eye protection:

Tightly fitting safety goggles (chemical goggles).

Body protection:

light protective clothing

General safety and hygiene measures:

Avoid contact with skin. Avoid inhalation of vapour. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Wash soiled clothing immediately.

9. Physical and Chemical Properties

Form: liquid

Odour: pungent odour

Odour threshold: not determined

Colour: colourless

pH value: (20 °C) neutral, moderately soluble

Melting point: -76.5 °C Literature data. Boiling point: 80.1 °C (1,013 hPa)

Sublimation point: No applicable information available.

Flash point: -2.8 °C (closed cup) Literature data.

Flammability: Highly flammable.

Lower explosion limit: For liquids not relevant for classification

and labelling. The lower explosion point may be 5 - 15 °C below the flash point.

Upper explosion limit: For liquids not relevant for classification

and labelling.

Autoignition: 468 °C Literature data.

Vapour density: not determined

Partitioning coefficient n- 0.739 (25 °C) (OECD Guideline 107)

octanol/water (log Pow):

Self-ignition Based on its structural properties the temperature: product is not classified as self-igniting.

Thermal decomposition: No decomposition if stored and handled as

prescribed/indicated.

Viscosity, dynamic: 0.472 mPa.s (25 °C) Literature data.

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Viscosity, kinematic:

Particle size:

(23 °C)

The substance / product is marketed or used in a non solid or granular form.

Solubility in water: 60 g/l (20 °C) Literature data.

Solubility (quantitative):

10 mm2/s

No applicable information available.

Solubility (qualitative): miscible

solvent(s): organic solvents,

Molar mass: 86.09 g/mol

Evaporation rate: Value can be approximated from Henry's

Law Constant or vapor pressure.

10. Stability and Reactivity

Reactivity

No applicable information available.

Corrosion to metals:

No corrosive effect on metal.

Oxidizing properties:

Based on its structural properties the product is not classified as oxidizing.

Formation of Remarks: Forms no flammable gases in the

flammable gases: presence of water.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

Explosion and fire hazard exists under confined conditions. Ignitable air mixtures can form when the product is heated above the flash point and/or when sprayed or atomized. Formation of explosive gas/air mixtures.

Risk of spontaneous and violent self-polymerization if inhibitor is lost or product is exposed to excessive heat. Risk of spontaneous polymerization when heated or in the presence of UV radiation. With unstabilised product, spontaneous polymerisation may occur e.g. through ambient heat. Polymerization coupled with heat formation. Polymerization produces gases which may burst closed or confined containers. Reactions may cause ignition.

Risk of spontaneous polymerization by oxygen depletion of the liquid phase.

Radical formation can cause exothermic polymerization. Reacts with peroxides and other radical components. Risk of spontaneous polymerization in the presence of starters for radical chain reactions (e.g. peroxides). Reacts with nitric acid. Polymerizes explosively in contact with strong oxidizing agents. Risk of spontaneous polymerization in the presence of oxidizing agents. Hazardous reactions in presence of mentioned substances to avoid.

The product is stabilized against spontaneous polymerization prior to despatch. The product is stable if stored and handled as prescribed/indicated.

Conditions to avoid

Avoid heat. Avoid oxygen content above the product of less than 5 %. Do not blanket with nitrogen. Avoid UV-light and other radiation with high energy. Avoid direct sunlight. Avoid prolonged storage. Avoid inhibitor loss. Avoid excessive temperatures.

Incompatible materials

polyvinylchloride, radical formers, free radical initiators, peroxides, mercaptans, nitro-compounds, perborates, azides, ether, ketones, aldehydes, amines, nitrates, nitrites, oxidizing agents, reducing agents, strong bases, acid anhydrides, acid chlorides, concentrated mineral acids, metal salts Inert gas

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Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Of moderate toxicity after single ingestion. Of pronounced toxicity after short-term inhalation. Of moderate toxicity after short-term skin contact.

Oral

Type of value: LD50 Species: rat (male)

Value: approx. 768 mg/kg (BASF-Test)

Inhalation

Type of value: LC50 Species: rat (male/female)

Value: < 10.832 mg/l (OECD Guideline 403)

Exposure time: 4 h

Dermal

Type of value: LD50 Species: rabbit (no data) Value: approx. 1,250 mg/kg

Assessment other acute effects

Assessment of STOT single:

Causes temporary irritation of the respiratory tract.

Irritation / corrosion

Assessment of irritating effects: Skin contact causes irritation. May cause severe damage to the eyes.

<u>Skin</u>

Species: rabbit Result: Irritant.

Method: OECD Guideline 404

<u>Eye</u>

Species: rabbit

Result: Risk of serious damage to eyes.

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Method: Draize test

Sensitization

Assessment of sensitization: Sensitization after skin contact possible.

Mouse Local Lymph Node Assay (LLNA)

Species: mouse Result: sensitizing

Method: OECD Guideline 429

Aspiration Hazard not applicable

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: May affect the liver and kidneys as indicated in animal studies

The substance may cause damage to the olfactory epithelium after repeated inhalation. After repeated exposure the prominent effect is local irritation.

Genetic toxicity

Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was genotoxic in mammalian cell culture. The substance was not genotoxic in a test with mammals.

Carcinogenicity

Assessment of carcinogenicity: In long-term animal studies in which the substance was given by inhalation, a carcinogenic effect was not observed. IARC Group 3 (not classifiable as to human carcinogenicity).

Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.

<u>Teratogenicity</u>

Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Other Information

development of pulmonary edema

Symptoms of Exposure

Overexposure may cause:, vomiting, nausea, headache, dizziness

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Acutely toxic for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish

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LC50 (96 h) 3.4 mg/l, Salmo gairdneri, syn. O. mykiss (OECD 203; ISO 7346; 84/449/EEC, C.1, Flow through.)

The statement of the toxic effect relates to the analytically determined concentration.

LC50 (96 h) 1.1 mg/l, Cyprinodon variegatus (OECD 203; ISO 7346; 84/449/EEC, C.1, Flow through.)

The statement of the toxic effect relates to the analytically determined concentration.

Aquatic invertebrates

EC50 (48 h) 2.6 mg/l, Daphnia magna (OECD Guideline 202, part 1, Flow through.) The statement of the toxic effect relates to the analytically determined concentration.

EC50 (96 h) 1.6 mg/l, Mysidopsis bahia (OPP 72-3 (EPA-Guideline), Flow through.) The statement of the toxic effect relates to the analytically determined concentration.

Aquatic plants

EC50 (72 h) 3.55 mg/l (growth rate), Selenastrum capricornutum (OECD Guideline 201, static) The statement of the toxic effect relates to the analytically determined concentration.

Chronic toxicity to fish

Study not necessary due to exposure considerations.

Chronic toxicity to aquatic invertebrates

No observed effect concentration (21 d) 0.19 mg/l, Daphnia magna (Flow through.) The statement of the toxic effect relates to the analytically determined concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Assessment of terrestrial toxicity

Study not necessary due to exposure considerations.

Soil living organisms

Toxicity to soil dwelling organisms:

other (28 d) > 1,000 mg/kg, soil dwelling microorganisms (OECD 217)

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

aquatic

activated sludge/EC10 (72 h): > 100 mg/l

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Readily biodegradable (according to OECD criteria).

Elimination information

90 - 100 % TIC of the ThIC (28 d) (ISO 14593) (aerobic, activated sludge, domestic)

Assessment of stability in water

In contact with water the substance will hydrolyse slowly.

Information on Stability in Water (Hydrolysis)

 $t_{1/2} > 28 \text{ d}$, (OPPTS 835.2130, pH7)

Bioaccumulative potential

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Assessment bioaccumulation potential

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments

The substance will slowly evaporate into the atmosphere from the water surface.

Adsorption to solid soil phase is not expected.

13. Disposal considerations

Waste disposal of substance:

Dispose of in accordance with national, state and local regulations. This material and its container must be disposed of in a safe way. Do not discharge into drains/surface waters/groundwater.

Container disposal:

Empty containers with less than 1 inch of residue may be landfilled at a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers. If containers are not empty, they must be disposed of in a RCRA-licensed facility.

RCRA: D001

14. Transport Information

Land transport

USDOT

Hazard class: 3 Packing group: II

ID number: UN 1919

Hazard label: 3

Proper shipping name: METHYL ACRYLATE, STABILIZED

Sea transport

IMDG

Hazard class: 3 Packing group: II

ID number: UN 1919 Hazard label: 3

Marine pollutant: NO

Proper shipping name: METHYL ACRYLATE, STABILIZED

Air transport

IATA/ICAO

Hazard class: 3
Packing group: II

ID number: UN 1919

Hazard label: 3

Proper shipping name: METHYL ACRYLATE, STABILIZED

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15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Reactivity; Acute; Chronic; Fire

CERCLA RQ CAS Number Chemical name

79-20-9; 96-33-3; methyl acetate; methyl acrylate; Methyl propionate

554-12-1

Reportable Quantity for release: 100 lb

State regulations

State RTKCAS NumberChemical nameMA, NJ, PA96-33-3methyl acrylate

MA, NJ, PA 150-76-5 MEHQ

NFPA Hazard codes:

Health: 3 Fire: 3 Reactivity: 1 Special:

HMIS III rating

Health: 3^m Flammability: 3 Physical hazard:1

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Aquatic Acute 2 Hazardous to the aquatic environment - acute Aquatic Chronic 3 Hazardous to the aquatic environment - chronic

Acute Tox. 4 (oral) Acute toxicity
Acute Tox. 4 (dermal) Acute toxicity
Acute Tox. 3 (Inhalation - vapour) Acute toxicity

Skin Corr./Irrit. 2 Skin corrosion/irritation

Eye Dam./Irrit. 2A Serious eye damage/eye irritation

STOT SE 3 (irritating to Specific target organ toxicity — single exposure

respiratory system)

Flam. Liq. 2 Flammable liquids Skin Sens. 1B Skin sensitization

16. Other Information

SDS Prepared by:

BASF NA Product Regulations SDS Prepared on: 2015/02/28

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our

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operations on society and the environment during production, storage, transport, use and disposal of our products.

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