1. Substance/preparation and company identification

**Company**
BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932

**24 Hour Emergency Response Information**
CHEMTREC: (800) 424-9300
BASF HOTLINE: (800) 832-HELP

<table>
<thead>
<tr>
<th>Molecular formula:</th>
<th>C5 H8 O2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical family:</td>
<td>organic acids, esters</td>
</tr>
<tr>
<td>Synonyms:</td>
<td>Acrylic Acid, Ethyl Ester</td>
</tr>
</tbody>
</table>

2. Composition/information on ingredients

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Content (W/W)</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>140-88-5</td>
<td>99.5 %</td>
<td>ethyl acrylate</td>
</tr>
<tr>
<td>150-76-5</td>
<td>&gt;= 0.001 - &lt;= 0.11 %</td>
<td>MEHQ</td>
</tr>
</tbody>
</table>

3. Hazard identification

**Emergency overview**

DANGER: FLAMMABLE LIQUID. CAUSES EYE BURNS. CAUSES SKIN BURNS. TOXIC IF ABSORBED THROUGH SKIN. CONTAINS MATERIAL THAT MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS IN FEMALES. SENSITIZER. CAN CAUSE LIVER DAMAGE. Use with local exhaust ventilation. Wear a NIOSH-certified (or equivalent) organic vapour/particulate 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.

**Potential health effects**

**Primary routes of exposure**
Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

**Acute toxicity:**
Harmful by inhalation, in contact with skin and if swallowed. Inhalation-risk test (IRT): Mortality within 10 minutes as shown in animal studies. The inhalation of a highly saturated vapor-air mixture represents a severe hazard.

**Irritation:**
Irritating to eyes, respiratory system and skin.

**Sensitization:**
Caused sensitization in animal studies.

**Medical conditions aggravated by overexposure:**
Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product. See MSDS section 11 - Toxicological information.

4. First-aid measures

General advice:
Remove contaminated clothing.

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. Sterile protective dressing. 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.

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary oedema.

5. Fire-fighting measures

Flash point: 8 °C (DIN 51755)
46.40 °F (closed cup)

Autoignition: 355 °C (DIN 51794)
701.60 °F (DIN 51794)

Lower explosion limit: 1.8 % (V) (17 °C)
Upper explosion limit: 12 % (V) (43 °C)

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

Hazards during fire-fighting:
Risk of violent self-polymerization if overheated in a container.

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.

NFPA Hazard codes:
Health: 2  Fire: 3  Reactivity: 2  Special:
6. Accidental release measures

**Personal precautions:**
Take appropriate protective measures.

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

**Environmental precautions:**
Substance/product is RCRA hazardous due to its properties.

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

7. Handling and storage

**Handling**

**General advice:**
Ensure adequate inhibitor and dissolved oxygen level.

**Protection against fire and explosion:**
Substance/product can form explosive mixture with air. Ground all transfer equipment properly to prevent electrostatic discharge. Containers should be grounded against electrostatic charge. It is recommended that all conductive parts of the machinery are grounded. Avoid all sources of ignition: heat, sparks, open flame. Vapours may form explosive mixture with air. Ignitable mixtures can be formed in the emptied container.

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.

**Storage**

**General advice:**
Risk of polymerization. Protect from direct sunlight.

8. Exposure controls and personal protection

**Components with workplace control parameters**

<table>
<thead>
<tr>
<th>Substance</th>
<th>OSHA</th>
<th>PEL (mg/m³)</th>
<th>TWA (ppm)</th>
<th>STEL (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethyl acrylate</td>
<td></td>
<td>25</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>MEHQ</td>
<td>ACGIH</td>
<td>TWA value 5</td>
<td>STEL value 15</td>
<td></td>
</tr>
</tbody>
</table>

**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. Wash soiled clothing immediately.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>sharp, biting</td>
</tr>
<tr>
<td>Colour</td>
<td>colourless</td>
</tr>
<tr>
<td>Melting temperature</td>
<td>approx. -72 °C</td>
</tr>
<tr>
<td></td>
<td>approx. -103.00 °F</td>
</tr>
<tr>
<td>Boiling temperature</td>
<td>approx. 100 °C</td>
</tr>
<tr>
<td></td>
<td>approx. 212.00 °F (759.81 mmHg)</td>
</tr>
<tr>
<td></td>
<td>(DIN 51751)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>38 hPa (20 °C)</td>
</tr>
<tr>
<td></td>
<td>165 hPa (50 °C)</td>
</tr>
<tr>
<td></td>
<td>31 mmHg (68.00 °F)</td>
</tr>
<tr>
<td></td>
<td>123.76 mmHg (122.00 °F)</td>
</tr>
<tr>
<td>Partitioning coefficient n-octanol/water (log Pow):</td>
<td>1.18</td>
</tr>
<tr>
<td>Viscosity, dynamic:</td>
<td>approx. 0.55 mPa.s (25 °C)</td>
</tr>
<tr>
<td>Solubility in water:</td>
<td>15 g/l (25 °C)</td>
</tr>
<tr>
<td>Solubility (qualitative):</td>
<td>miscible solvent(s): organic solvents</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Conditions to avoid:

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

Hazardous reactions:
Explosion and fire hazard exists under confined conditions. Ignitible 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.

**Decomposition products:**
carbon monoxide, Carbon dioxide

**Corrosion to metals:**
No corrosive effect on metal.

11. Toxicological information

**Acute toxicity**

**Oral:**
LD50rat:  550 mg/kg (BASF-Test)

**Inhalation:**
LC50rat:  5.9 mg/l / 4 h

rat: / 4 min (IRT)
No Mortality within the stated exposition time as shown in animal studies, however, deaths occurred after longer exposure.

**Dermal:**
LD50rat:  470 mg/kg

**Skin irritation:**
rabbit: Irritant. (OECD Guideline 404)

**Eye irritation:**
rabbit: Irritant. (BASF-Test)

**Sensitization:**
Freund's complete adjuvant test (FCA)/guinea pig: sensitizing

**Chronic toxicity**

**Genetic toxicity:**
In the majority of tests performed (bacteria/microorganisms/cell cultures) a mutagenic effect was not found. A mutagenic effect was also not observed in in-vivo assays.

Literature data.

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

Literature data.
12. Ecological information

Environmental fate and transport

Biodegradation:
Test method: Unspecified
Degree of elimination: > 60 %
Test method: OECD 301C; ISO 9408; 92/69/EEC, C.4-F
Degree of elimination: 52 %
Evaluation: Easily eliminated from water.
Moderately/partially biodegradable.
On the basis of the data available concerning eliminability/degradation and bioaccumulation potential, longer-term harm to the environment cannot be ruled out.

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

Environmental toxicity

Acute and prolonged toxicity to fish:
Rainbow trout/LC50 (96 h): 4.6 mg/l
Literature data.
DIN 38412 Part 15 golden orfe/LC50 (96 h): 10 - 22 mg/l

Acute toxicity to aquatic invertebrates:
Directive 84/449/EEC, C.2 Daphnia magna/LC50 (48 h): 4.4 mg/l

Toxicity to aquatic plants:
OECD Guideline 201 green algae/EC50 (72 h): 48 mg/l

Toxicity to microorganisms:
DIN 38412 Part 8 bacterium/EC50 (16 h): 1,500 mg/l

Other ecotoxicological advice:
Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations. Acutely toxic for aquatic organisms.

13. Disposal considerations

Waste disposal of substance:
Incinerate or dispose of in a RCRA-licensed facility.
Do not discharge into drains/surface waters/groundwater.

Contaminated packaging:
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: U113
14. Transport information

Reference Bill of Lading

15. Regulatory information

Federal Regulations

Registration status:
TSCA, US released / listed

OSHA hazard category: OSHA PEL established, Sensitizer, Chronic target organ effects reported, Skin and/or eye irritant, ACGIH TLV established, Flammable Liquid

CERCLA RQ: 1,000 lb

SARA hazard categories (EPCRA 311/312): Acute, Fire, Chronic

SARA 313:

<table>
<thead>
<tr>
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<th>Chemical name</th>
<th>State RTK</th>
</tr>
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<tbody>
<tr>
<td>140-88-5</td>
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State regulations

State RTK

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CA Prop. 65:
THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

16. Other information

Recommended use for industrial use only

HMIS III rating

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.
IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY BASF HEREUNDER ARE GIVEN GRATIS AND BASF ASSUMES NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

This product is of industrial quality and unless otherwise specified or agreed intended exclusively for industrial use. Any other intended applications should be discussed with the manufacturer.

END OF DATA SHEET