Safety Data Sheet
2-Ethylhexanoic acid

1. Identification

Product identifier used on the label

2-Ethyhexanoic acid

Recommended use of the chemical and restriction on use

Recommended use*: Chemical used in synthesis and/or formulation of industrial products, Not suitable for consumers.

* The “Recommended use” identified for this product is provided solely to comply with a 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.

Details of the supplier of the safety data sheet

Company:
BASF Mexicana S.A. de C.V.
Av. Insurgentes Sur 975
Col. CD. De Los Deportes,
C.P. 03710 Ciudad de México
MÉXICO

Telephone: +52 55 5325 2600

Emergency telephone number

Tel.: +1-800-849-5204 or +1-833-229-1000
CHEMTREC Int.: +1-703-527-3887

Other means of identification

Molecular formula: C(8) H(16) O(2)
Synonyms: 2-Ethylhexanoic Acid
2 EH Acid

2. Hazards Identification

According to Regulation NOM-018-STPS-2015

Classification of the product

<table>
<thead>
<tr>
<th>Category</th>
<th>Risk Phrase</th>
<th>Hazard Phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repr.</td>
<td>2 (unborn child)</td>
<td>Reproductive toxicity</td>
</tr>
<tr>
<td>Aquatic Acute</td>
<td>3</td>
<td>Hazardous to the aquatic environment - acute</td>
</tr>
</tbody>
</table>
Label elements

Pictogram:

Signal Word: Warning

Hazard Statement:
H361 Suspected of damaging the unborn child.
H402 Harmful to aquatic life.

Precautionary Statements (Prevention):
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release to the environment.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

Precautionary Statements (Response):
P308 + P311 IF exposed or concerned: Call a POISON CENTER or doctor/physician.

Precautionary Statements (Storage):
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.

3. Composition / Information on Ingredients

According to Regulation NOM-018-STPS-2015

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Weight %</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>149-57-5</td>
<td>&gt; 99.0 - &lt;= 100.0%</td>
<td>2-ethylhexanoic acid</td>
</tr>
</tbody>
</table>

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.
If on skin:
Wash thoroughly with soap and water.

If irritation develops, seek medical attention.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.

If swallowed:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

**Most important symptoms and effects, both acute and delayed**

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

**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.

5. **Fire-Fighting Measures**

**Extinguishing media**

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

Unsuitable extinguishing media for safety reasons:
water jet

**Special hazards arising from the substance or mixture**

Hazards during fire-fighting:
nitrogen oxides, carbon oxides
The substances/groups of substances mentioned can be released in case of fire.

**Advice for fire-fighters**

Protective equipment for fire-fighting:
Wear self-contained breathing apparatus and chemical-protective clothing.

**Further information:**

Cool endangered containers with water-spray. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. **Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

Use personal protective clothing. Information regarding personal protective measures see, section 8. Keep unprotected persons away. Avoid inhalation. Avoid contact with the skin, eyes and clothing. Ensure adequate ventilation.
Environmental precautions
Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

Methods and material for containment and cleaning up
For small amounts: Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder).
For large amounts: Dike spillage. Pump off product.
Wear suitable protective equipment. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Collect waste in suitable containers, which can be labeled and sealed. Incinerate or take to a special waste disposal site in accordance with local authority regulations.

7. Handling and Storage

Precautions for safe handling
Ensure thorough ventilation of stores and work areas. Product should be worked up in closed equipment as far as possible. Personal protective equipment should be worn during open handling.

Protection against fire and explosion:
Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

Conditions for safe storage, including any incompatibilities
Segregate from alkalies and alkalizing substances.

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), glass, Stove-lacquer RDL 50, Stove-lacquer R 78433, Stainless steel 1.4301 (V2), Stainless steel 1.4541, Stainless steel 1.4401, Stainless steel 1.4571

Unsuitable materials for containers: Galvanized carbon steel (Zinc), Paper/Fibreboard, Carbon steel (Iron), Aluminium

Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place.

Storage stability:
Storage duration: 24 Months
From the data on storage duration in this safety data sheet no agreed statement regarding the warranty of application properties can be deduced.

8. Exposure Controls/Personal Protection

No occupational exposure limits known.

Advice on system design:
Provide local exhaust ventilation to control vapours/mists.

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:
Chemical resistant protective gloves (EN 374). Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to


EN 374); nitrile rubber (NBR) - 0.4 mm coating thickness, butyl rubber (butyl) - 0.7 mm coating thickness, polyvinylchloride (PVC) - 0.7 mm coating thickness, fluoroelastomer (FKM) - 0.7 mm coating thickness. Suitable materials for short-term contact (recommended: At least protective index 2, corresponding > 30 minutes of permeation time according to EN 374), chloroprene rubber (CR) - 0.5 mm coating thickness, Manufacturer's directions for use should be observed because of great diversity of types.

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

**Eye protection:**
Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

**Body protection:**
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

**General safety and hygiene measures:**
Under no circumstances should the product come into contact with the skin of pregnant women or be inhaled by them. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Do not breathe vapour/spray. Avoid contact with skin and eyes. Eye wash fountains and safety showers must be easily accessible. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Store work clothing separately.

### 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form:</strong></td>
<td>liquid</td>
</tr>
<tr>
<td><strong>Odour:</strong></td>
<td>faint specific odour</td>
</tr>
<tr>
<td><strong>Odour threshold:</strong></td>
<td>Not determined due to potential health hazard by inhalation.</td>
</tr>
<tr>
<td><strong>Colour:</strong></td>
<td>colourless to yellow</td>
</tr>
<tr>
<td><strong>pH value:</strong></td>
<td>3 (1.4 g/l, 20 °C) (saturated solution), Literature data.</td>
</tr>
<tr>
<td><strong>Melting point:</strong></td>
<td>approx. -59 °C</td>
</tr>
<tr>
<td><strong>boiling temperature:</strong></td>
<td>226 - 229 °C (DIN 51751)</td>
</tr>
<tr>
<td><strong>Flash point:</strong></td>
<td>approx. 114 °C (DIN 51758)</td>
</tr>
<tr>
<td><strong>Flammability:</strong></td>
<td>hardly combustible (derived from flash point)</td>
</tr>
<tr>
<td><strong>Lower explosion limit:</strong></td>
<td>For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.</td>
</tr>
<tr>
<td><strong>Upper explosion limit:</strong></td>
<td>For liquids not relevant for classification and labelling.</td>
</tr>
<tr>
<td><strong>Autoignition:</strong></td>
<td>310 °C (DIN 51794)</td>
</tr>
<tr>
<td><strong>SADT:</strong></td>
<td>Study scientifically not justified.</td>
</tr>
<tr>
<td><strong>Vapour pressure:</strong></td>
<td>0.04 mbar (20 °C), 0.125 mbar (50 °C)</td>
</tr>
<tr>
<td><strong>Density:</strong></td>
<td>0.91 g/cm³ (20 °C) (DIN 51757)</td>
</tr>
</tbody>
</table>
10. Stability and Reactivity

**Reactivity**
No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:
Corrosive effects to metal are not anticipated.

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

<table>
<thead>
<tr>
<th>Formation of flammable gases</th>
<th>Remarks</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Forms no flammable gases in the presence of water.</td>
<td></td>
</tr>
</tbody>
</table>

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

**Possibility of hazardous reactions**
Reacts with strong alkalies. Exothermic reaction.

**Conditions to avoid**
See MSDS section 7 - Handling and storage.

**Incompatible materials**
strong alkalies

**Hazardous decomposition products**
Decomposition products:
Hazardous decomposition products: No hazardous decomposition products 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 low toxicity after single ingestion. Inhalation-risk test (IRT): No mortality within 8 hours as shown in animal studies. The inhalation of a highly saturated vapor-air mixture represents no acute hazard. Virtually nontoxic after a single skin contact.

Oral
Type of value: LD50
Species: rat
Value: 2,043 mg/kg (OECD Guideline 401)

Inhalation
Type of value: LC0
Species: rat
Value: 0.11 mg/l (IRT)
Exposure time: 8 h

Dermal
Type of value: LD50
Species: rat
Value: > 2,000 mg/kg (OECD Guideline 402)
No mortality was observed.

Assessment other acute effects
Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Irritation / corrosion
Assessment of irritating effects: Not irritating to the eyes. Not irritating to the skin.

Skin
Species: rabbit
Result: non-irritant
Method: OECD Guideline 404

Eye
Species: rabbit
Result: non-irritant
Method: OECD Guideline 405

Sensitization
Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Species: guinea pig
Result: Non-sensitizing.
Method: OECD Guideline 406

Aspiration Hazard
No aspiration hazard expected.

**Chronic Toxicity/Effects**

Repeated dose toxicity
Assessment of repeated dose toxicity: No adverse effects were observed after repeated exposure in animal studies.

Genetic toxicity
Assessment of mutagenicity: Results from a number of mutagenicity studies with microorganisms, mammalian cell culture and mammals are available. Taking into account all of the information, there is no indication that the substance is mutagenic.

Carcinogenicity
Assessment of carcinogenicity: No data available concerning carcinogenic effects. Study scientifically not justified.

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

Teratogenicity
Assessment of teratogenicity: Indications of possible developmental toxicity/teratogenicity were seen in animal studies.

**Symptoms of Exposure**

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

---

**12. Ecological Information**

**Toxicity**

Aquatic toxicity
Assessment of aquatic toxicity:
Acutely harmful 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
LC50 (96 h) > 100 mg/l, Oryzias latipes (OECD 203; ISO 7346; 84/449/EEC, C.1, semistatic)
The statement of the toxic effect relates to the analytically determined concentration.

Aquatic invertebrates
EC50 (48 h) 85.38 mg/l, Daphnia magna (Directive 84/449/EEC, C.2)
The details of the toxic effect relate to the nominal concentration. The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample.

Aquatic plants
EC50 (72 h) 49.3 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9, static)
The details of the toxic effect relate to the nominal concentration.

**Chronic toxicity to fish**
Study scientifically not justified.

**Chronic toxicity to aquatic invertebrates**
No observed effect concentration (21 d) 25 mg/l, Daphnia magna (OECD Guideline 211, semistatic)
The statement of the toxic effect relates to the analytically determined concentration.

**Assessment of terrestrial toxicity**
Study scientifically not justified.

### Microorganisms/Effect on activated sludge

**Toxicity to microorganisms**
DIN 38412 Part 8 aquatic bacterium/EC50 (17 h): 112.1 mg/l
The details of the toxic effect relate to the nominal concentration.

DIN 38412 Part 27 (draft) aquatic bacterium/EC50 (0.5 h): 673 mg/l
The details of the toxic effect relate to the nominal concentration.

### Persistence and degradability

**Assessment biodegradation and elimination (H2O)**
Readily biodegradable (according to OECD criteria). Easily eliminated from water.

#### Elimination information

90 - 100 % DOC reduction (28 d) (OECD 301E/92/69/EEC, C.4-B) (aerobic, activated sludge, domestic)
Literature data.

85 - 95 % DOC reduction (6 d) (OECD Guideline 302 B) (activated sludge, industrial)

**Assessment of stability in water**
According to structural properties, hydrolysis is not expected/probable.

### Bioaccumulative potential

**Bioaccumulation potential**
No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow). Under environmental conditions, the substance will almost completely be in its charged form.

### Mobility in soil

**Assessment transport between environmental compartments**
The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.

### Additional information

**Sum parameter**

Chemical oxygen demand (COD): 2,240 mg/kg
Biochemical oxygen demand (BOD): 1,200 mg/kg

Other ecotoxicological advice:
Due to the pH-value of the product, neutralization is generally required before discharging sewage into treatment plants.

13. Disposal considerations

Waste disposal of substance:
Incinerate in suitable incineration plant, observing local authority regulations.

Container disposal:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. Transport Information

Land transport
TDG
Not classified as a dangerous good under transport regulations

Sea transport
IMDG
Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO
Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations
Not applicable

NFPA Hazard codes:
Health: 1  Fire: 1  Reactivity: 0  Special:

Assessment of the hazard classes according to UN GHS criteria (most recent version):
Aquatic Acute 3  Hazardous to the aquatic environment - acute
Repr. 2 (unborn child)  Reproductive toxicity
Acute Tox. 5 (oral)  Acute toxicity

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
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 operations on society and the environment during production, storage, transport, use and disposal of our products.

This information is considered accurate but is not exhaustive and shall only be used as a guideline based on current knowledge of the chemical substance or mixture. Safety precautions suitable for the product must be applied.

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 OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

END OF DATA SHEET