

Safety Data Sheet

1-Methylimidazole

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(30037075/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

1-Methylimidazole

Recommended use of the chemical and restriction on use

Recommended use*: for industrial and professional users

* 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 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: | C(4)H(6)N(2) |
| Chemical family: | heterocycle, imidazole derivative |
| Synonyms: | 1-Methylimidazole |

2. Hazards Identification

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

Classification of the product

| | | |
|-------------------|------------|-----------------------------------|
| Flam. Liq. | 4 | Flammable liquids |
| Acute Tox. | 4 (oral) | Acute toxicity |
| Acute Tox. | 3 (dermal) | Acute toxicity |
| Skin Corr./Irrit. | 1B | Skin corrosion/irritation |
| Eye Dam./Irrit. | 1 | Serious eye damage/eye irritation |

Label elements

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Pictogram:



Signal Word:
Danger

Hazard Statement:

| | |
|------|--|
| H227 | Combustible liquid. |
| H311 | Toxic in contact with skin. |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |

Precautionary Statements (Prevention):

| | |
|------|--|
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P260 | Do not breathe dust or mist. |
| P270 | Do not eat, drink or smoke when using this product. |
| P264 | Wash with plenty of water and soap thoroughly after handling. |

Precautionary Statements (Response):

| | |
|--------------------|--|
| P310 | Immediately 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. |
| P303 + P361 + P352 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. |
| P304 + P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P301 + P330 + P331 | IF SWALLOWED: rinse mouth. Do NOT induce vomiting. |
| P301 + P330 | IF SWALLOWED: rinse mouth. |
| P370 + P378 | In case of fire: Use water spray, dry powder, foam or carbon dioxide for extinction. |

Precautionary Statements (Storage):

| | |
|-------------|--|
| P405 | Store locked up. |
| P403 + P235 | Store in a well-ventilated place. Keep cool. |

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 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

| <u>CAS Number</u> | <u>Weight %</u> | <u>Chemical name</u> |
|-------------------|---------------------|----------------------|
| 616-47-7 | >= 99.0 - <= 100.0% | 1-methylimidazole |

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4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

If on skin:

Wash affected areas with water while removing contaminated clothing. Remove contaminated clothing. Immediate medical attention required. Wash soiled clothing immediately.

If in eyes:

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Immediate medical attention required.

If swallowed:

Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

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., Further symptoms are possible

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. Pulmonary odema prophylaxis. Medical monitoring for at least 24 hours.

5. Fire-Fighting Measures

Extinguishing media

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

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
No particular hazards known.

Advice for fire-fighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

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Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Impact Sensitivity:

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear appropriate respiratory protection. Use personal protective clothing. Ensure adequate ventilation.

Environmental precautions

This product is not regulated by RCRA. This product is not regulated by CERCLA ('Superfund').

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

Ensure thorough ventilation of stores and work areas. Protect against heat. Protect against moisture.

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 acids and acid forming substances.

Further information on storage conditions: Containers should be stored tightly sealed in a dry place. Keep at temperature not exceeding 50°C.

Avoid extreme heat. Keep away from heat. Keep away from sources of ignition - No smoking.

Storage stability:

Keep container dry.

Protect against moisture.

Protect from temperatures above: 30 °C

Damage by exceeding the maximum temperature is not reversible.

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 a NIOSH-certified (or equivalent) organic vapour/particulate respirator. Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. For emergency or

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non-routine, high exposure situations, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:

Chemical resistant protective gloves, Consult with glove manufacturer for testing data.

Eye protection:

Wear face shield or tightly fitting safety goggles (chemical goggles) 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:

Eye wash fountains and safety showers must be easily accessible. Wear protective clothing as necessary to prevent contact. 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.

9. Physical and Chemical Properties

| | | |
|---|---|--|
| Form: | liquid | |
| Odour: | amine-like | |
| Odour threshold: | Not determined due to potential health hazard by inhalation. | |
| Colour: | colourless to yellow | |
| pH value: | 11.3 (100 g/l) | |
| Melting point: | -2 °C | |
| Boiling point: | 198 °C | |
| Flash point: | 92 °C | (DIN 51758) |
| Flammability: | not readily ignited | (other) |
| 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: | 488 °C | (DIN EN 14522) |
| Vapour pressure: | 0.4 mbar (20 °C) | |
| Density: | 1.03 g/cm ³ (20 °C) | |
| Partitioning coefficient n-octanol/water (log Pow): | -0.19 (25 °C) | (OECD Guideline 107) |
| Self-ignition temperature: | Based on its structural properties the product is not classified as self-igniting. | |
| Thermal decomposition: | 225 °C, > 180 kJ/kg (DSC (OECD 113)) Thermal decomposition above the indicated temperature is possible. It is not a self-decomposable substance. | |
| Viscosity, dynamic: | 1.89 mPa.s (20 °C) 1.33 mPa.s (40 °C) | (calculated (from kinematic viscosity)) (calculated (from kinematic viscosity)) |
| Viscosity, kinematic: | 1.83 mm ² /s (20 °C) | (OECD 114) |

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| | | |
|----------------------|--|------------|
| | 1.30 mm ² /s (40 °C) | (OECD 114) |
| Particle size: | The substance / product is marketed or used in a non solid or granular form. | |
| Solubility in water: | 145.8 g/l (25 °C) | |
| Molar mass: | 82.11 g/mol | |
| Evaporation rate: | Value can be approximated from Henry's Law Constant or vapor pressure. | |

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.

Formation of Remarks:

flammable gases:

Forms no flammable gases in the presence of water.

Chemical stability

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

Possibility of hazardous reactions

The product is chemically stable.

Conditions to avoid

See MSDS section 7 - Handling and storage.

Incompatible materials

mineral acids

Hazardous decomposition products

Decomposition products:

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

Thermal decomposition:

225 °C, 2.5 K/min (DSC (OECD 113))

Thermal decomposition above the indicated temperature is possible. It is not a self-decompositionable substance.

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

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Acute toxicity

Assessment of acute toxicity: Of moderate toxicity after single ingestion. Of pronounced toxicity after short-term skin contact. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard.

Oral

Type of value: LD50

Species: rat

Value: approx. 1,144 mg/kg (similar to OECD guideline 401)

Inhalation

Type of value: LC0

Species: rat

Value: > 1,35 g/m³ (IRT)

Exposure time: 8 h

Dermal

Type of value: LD50

Species: rabbit (male/female)

Value: > 400 - < 640 mg/kg (similar to OECD guideline 402)

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: Corrosive! Damages skin and eyes.

Skin

Species: rabbit

Result: Corrosive.

Method: similar to OECD guideline 404

Eye

Species: rabbit

Result: Risk of serious damage to eyes.

Method: similar to OECD guideline 405

Sensitization

Assessment of sensitization: No data available. As the substance is corrosive, conducting sensitization studies is not feasible.

Aspiration Hazard

not applicable

Chronic Toxicity/Effects

Repeated dose toxicity

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

Genetic toxicity

Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture.

Carcinogenicity

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Assessment of carcinogenicity: No data available.

Reproductive toxicity

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

Teratogenicity

Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect 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., Further symptoms are possible

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.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to 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 - < 215 mg/l, *Leuciscus idus* (DIN 38412 Part 15, static)

The details of the toxic effect relate to the nominal concentration.

Aquatic invertebrates

EC50 (48 h) 267.9 mg/l, *Daphnia magna* (Directive 79/831/EEC, static)

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. After neutralization a reduction in harmful effect can be observed.

Aquatic plants

EC50 (72 h) 180.7 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

No data available regarding toxicity to fish.

Chronic toxicity to aquatic invertebrates

No data available regarding toxicity to daphnids.

Assessment of terrestrial toxicity

No data available concerning terrestrial toxicity.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

DIN 38412 Part 8 aquatic

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bacterium/EC10 (17 h): 589.6 mg/l

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. After neutralization a reduction in harmful effect can be observed.

DIN 38412 Part 8 aquatic

bacterium/EC50 (17 h): 1,050 mg/l

The details of the toxic effect relate to the nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Not readily biodegradable (by OECD criteria). The product is biodegradable after extended adaptation.

Elimination information

0 - 10 % BOD of the ThOD (28 d) (OECD Guideline 301 F) (aerobic, activated sludge)

0 - 10 % DOC reduction (20 d) (OECD Guideline 302 B) (aerobic, activated sludge, industrial)

Assessment of stability in water

According to structural properties, hydrolysis is not expected/probable.

Bioaccumulative potential

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.

Additional information

Adsorbable organically-bound halogen (AOX):

This product contains no organically-bound halogen.

13. Disposal considerations

Waste disposal of substance:

Do not discharge substance/product into sewer system. Dispose of in accordance with national, state and local regulations.

Container disposal:

Dispose of in a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport

USDOT

Hazard class:

8

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Packing group: II
ID number: UN 2922
Hazard label: 8, 6.1
Proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (contains 1-METHYLIMIDAZOLE)

Sea transport

IMDG

Hazard class: 8
Packing group: II
ID number: UN 2922
Hazard label: 8, 6.1
Marine pollutant: NO
Proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (contains 1-METHYLIMIDAZOLE)

Air transport

IATA/ICAO

Hazard class: 8
Packing group: II
ID number: UN 2922
Hazard label: 8, 6.1
Proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (contains 1-METHYLIMIDAZOLE)

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

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

NFPA Hazard codes:

Health : 3 Fire: 2 Reactivity: 0 Special:

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

| | | |
|-------------------|------------|---------------------------|
| Acute Tox. | 4 (oral) | Acute toxicity |
| Acute Tox. | 3 (dermal) | Acute toxicity |
| Skin Corr./Irrit. | 1B | Skin corrosion/irritation |
| Flam. Liq. | 4 | Flammable liquids |

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2016/12/05

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