

SAFETY DATA SHEET

Creation Date 04-Feb-2010

Revision Date 23-Jan-2018

Revision Number 4

1. Identification

Product Name Imidazole

Cat No. : AC396740000; AC396740025; AC396741000; AC396745000

CAS-No 288-32-4
Synonyms Glyoxaline

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.
Details of the supplier of the safety data sheet

Company

| | |
|---------------------|---------------------|
| Fisher Scientific | Acros Organics |
| One Reagent Lane | One Reagent Lane |
| Fair Lawn, NJ 07410 | Fair Lawn, NJ 07410 |
| Tel: (201) 796-7100 | |

Emergency Telephone Number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11

Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99

CHEMTREC Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|--|--------------|
| Acute oral toxicity | Category 4 |
| Skin Corrosion/Irritation | Category 1 C |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Reproductive Toxicity | Category 1B |
| Specific target organ toxicity (single exposure) | Category 3 |
| Target Organs - Respiratory system. | |
| Combustible dust | Yes |

Label Elements

Signal Word

Danger

Hazard Statements

May form combustible dust concentrations in air
 Harmful if swallowed
 Causes severe skin burns and eye damage
 May cause respiratory irritation
 May damage the unborn child



Precautionary Statements

Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Do not breathe dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Ingestion

Rinse mouth
 Do NOT induce vomiting

Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|-------------|----------|----------|
| 1-Imidazole | 288-32-4 | >95 |

4. First-aid measures

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth

method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion

Do NOT induce vomiting. Call a physician or poison control center immediately.

Most important symptoms and effects

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Notes to Physician

Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media

Water spray. Alcohol resistant foam. Dry chemical, soda ash, lime or sand.

Unsuitable Extinguishing Media

Carbon dioxide (CO₂)

Flash Point

145 °C / 293 °F

Method -

No information available

Autoignition Temperature

480 °C / 896 °F

Explosion Limits**Upper**

No data available

Lower

No data available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Corrosive material. Fine dust dispersed in air may ignite. Dust can form an explosive mixture with air. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Nitrogen oxides (NO_x). Hydrogen cyanide (hydrocyanic acid). Ammonia.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health
3

Flammability
1

Instability
0

Physical hazards
N/A

6. Accidental release measures

Personal Precautions

Use personal protective equipment as required. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid dust formation.

Environmental Precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

7. Handling and storage

Handling

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance. Avoid dust formation.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

8. Exposure controls / personal protection

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

| | |
|---|--|
| Physical State | Solid |
| Appearance | White - Yellow |
| Odor | Amine compounds |
| Odor Threshold | No information available |
| pH | 10.5 (6.7% aq.sol.) |
| Melting Point/Range | 86 - 90 °C / 186.8 - 194 °F |
| Boiling Point/Range | 255 - 256 °C / 491 - 492.8 °F @ 760 mmHg |
| Flash Point | 145 °C / 293 °F |
| Evaporation Rate | Not applicable |
| Flammability (solid,gas) | No information available |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | 0.003 mbar @ 20 °C |
| Vapor Density | Not applicable |
| Specific Gravity | No information available |
| Solubility | Soluble in water |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | 480 °C / 896 °F |
| Decomposition Temperature | No information available |
| Viscosity | Not applicable |
| Molecular Formula | C3 H4 N2 |
| Molecular Weight | 68.08 |

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under recommended storage conditions.

Conditions to Avoid Avoid dust formation. Incompatible products. Excess heat. Exposure to air or moisture over prolonged periods.

Incompatible Materials Strong oxidizing agents, Acids, Acid chlorides, Acid anhydrides

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Hydrogen cyanide (hydrocyanic acid), Ammonia

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-------------|-----------------|-------------|-----------------|
| 1-Imidazole | 970 mg/kg (Rat) | - | - |

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Causes burns by all exposure routes

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|-------------|----------|------------|------------|------------|------------|------------|
| 1-Imidazole | 288-32-4 | Not listed | Not listed | Not listed | Not listed | Not listed |

Mutagenic Effects Not mutagenic in AMES Test

Reproductive Effects May cause harm to the unborn child.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information No information available

Other Adverse Effects See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Do not empty into drains.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|-------------|--|--|--|--|
| 1-Imidazole | EC50: = 82 mg/L, 96h (Desmodesmus subspicatus) EC50: = 130 mg/L, 72h | LC50: = 280 mg/L, 48h static (Leuciscus idus) | = 1200 mg/L EC50 Pseudomonas putida 17 h = 231 mg/L EC50 Photobacterium | EC50: = 341.5 mg/L, 48h (Daphnia magna) |

| | | | | |
|--|--------------------------|--|--------------------|--|
| | (Desmodemus subspicatus) | | phosphoreum 30 min | |
|--|--------------------------|--|--------------------|--|

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility . Will likely be mobile in the environment due to its water solubility.

| Component | log Pow |
|-------------|---------|
| 1-Imidazole | -0.02 |

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN3263
Proper Shipping Name Corrosive solid, basic, organic, n.o.s.
Technical Name 1-Imidazole
Hazard Class 8
Packing Group III

TDG

UN-No UN3263
Proper Shipping Name Corrosive solid, basic, organic, n.o.s.
Hazard Class 8
Packing Group III

IATA

UN-No UN3263
Proper Shipping Name Corrosive solid, basic, organic, n.o.s.
Hazard Class 8
Packing Group III

IMDG/IMO

UN-No UN3263
Proper Shipping Name Corrosive solid, basic, organic, n.o.s.
Hazard Class 8
Packing Group III

15. Regulatory information

United States of America Inventory

| Component | CAS-No | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|-------------|----------|------|---|-----------------------------|
| 1-Imidazole | 288-32-4 | X | ACTIVE | - |

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component | CAS-No | DSL | NDSL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|-----------|--------|-----|------|--------|-------|------|------|-------|------|
| | | | | | | | | | |

| | | | | | | | | | |
|-------------|----------|---|---|-----------|---|---|---|---|----------|
| 1-Imidazole | 288-32-4 | X | - | 206-019-2 | X | X | X | X | KE-20937 |
|-------------|----------|---|---|-----------|---|---|---|---|----------|

U.S. Federal Regulations

| | |
|---|---|
| SARA 313 | Not applicable |
| SARA 311/312 Hazard Categories | See section 2 for more information |
| CWA (Clean Water Act) | Not applicable |
| Clean Air Act | Not applicable |
| OSHA - Occupational Safety and Health Administration | Not applicable |
| CERCLA | Not applicable |
| California Proposition 65 | This product does not contain any Proposition 65 chemicals. |
| U.S. State Right-to-Know Regulations | Not applicable |
| U.S. Department of Transportation | |
| Reportable Quantity (RQ): | N |
| DOT Marine Pollutant | N |
| DOT Severe Marine Pollutant | N |
| U.S. Department of Homeland Security | This product does not contain any DHS chemicals. |

Other International Regulations

| | |
|-----------------------|----------------------|
| Mexico - Grade | Slight risk, Grade 1 |
|-----------------------|----------------------|

16. Other information

| | |
|-------------------------|---|
| Prepared By | Regulatory Affairs Thermo Fisher Scientific Email: EMSDS.RA@thermofisher.com |
| Creation Date | 04-Feb-2010 |
| Revision Date | 23-Jan-2018 |
| Print Date | 23-Jan-2018 |
| Revision Summary | This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). |

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS