



SAFETY DATA SHEET

Issuing Date 23-Jul-2013

Revision Date 31-Aug-2016

Revision Number 3

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name **N-METHYL IMIDAZOLE**

Other means of identification

Product Code 3245000
CAS Number 616-47-7
Formula C4H6N2
Synonyms 1H-Imidazole, 1-Methyl-
UN-No UN2922

Recommended use of the chemical and restrictions on use

Recommended Use Specialty Chemicals
Uses advised against Avoid contact with food. Avoid prolonged contact with eyes, skin, and clothing.

Details of the supplier of the safety data sheet

Supplier Address ACETO CORPORATION
4 Tri Harbor Court
Port Washington, NY 11050-4661
Phone: (516) 627-6000
Fax: (516) 627-6093
Email: aceto@aceto.com

Emergency Telephone Number(s)

ChemTrec: 1-800-424-9300 Outside of the United States: 1-703-527-3887

2. HAZARDS IDENTIFICATION

Classification

| | |
|-----------------------------------|---------------------------|
| Acute toxicity - Oral | Category 4 |
| Acute toxicity - Dermal | Category 3 |
| Skin Corrosion/Irritation | Category 1 Sub-category B |
| Serious eye damage/eye irritation | Category 1 |
| Category 4 | |

Label elements

Emergency Overview

Signal Word
DANGER

Hazard statements

Harmful if swallowed
 Toxic in contact with skin
 Causes severe skin burns and eye damage

**Appearance**

Clear Colorless to Light yellow

Physical State

Liquid

Odor

Amine-like

Precautionary Statements - Prevention

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
 Wear protective gloves/protective clothing/eye protection/face protection
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Immediately call a POISON CENTER or doctor/physician
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth
 Do NOT induce vomiting
 In case of fire: Use CO₂, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None known

Other Information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms

1H-Imidazole, 1-Methyl-

Formula

C₄H₆N₂

| Chemical Name | CAS No | Weight-% | North American Hazard Indicator |
|-------------------------|----------|----------|---------------------------------|
| 1H-Imidazole, 1-Methyl- | 616-47-7 | 100 | True |

4. FIRST AID MEASURES

First Aid Measures

| | |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General Advice | Show this safety data sheet to the doctor in attendance. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician or poison control center immediately. |
| Skin Contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. Destroy contaminated shoes. Call a physician or poison control center immediately. |
| Inhalation | Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician or poison control center immediately. |
| Ingestion | Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. |
| Self-Protection of the First Aider | Remove all sources of ignition. Use personal protective equipment as required. Avoid contact with eyes, skin and clothing. |

Most important symptoms and effects, both acute and delayed

Signs and Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

| | |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Flammable properties</u> | Combustible liquid. Vapors may cause flash fire or explosion. |
| <u>Suitable Extinguishing Media</u> | Water spray. Carbon dioxide (CO ₂). Dry powder. Foam. Water mist may be used to cool closed containers. Do not get water inside containers. |
| <u>Unsuitable Extinguishing Media</u> | Not available. |
| <u>Hazardous Combustion Products</u> | Thermal decomposition or combustion may produce hazardous gases and/or materials. |
| <u>Explosion Data</u> | Not available |
| Sensitivity to mechanical impact | Not available. |
| Sensitivity to static discharge | Not available. |

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating gases and vapours. In the event of fire and/or explosion do not breathe fumes. Risk of ignition. Container explosion may occur under fire conditions.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment as required. Avoid contact with eyes, skin and clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Remove all sources of ignition.

Other Information Not applicable.

Environmental Precautions Local authorities should be advised if significant spillages cannot be contained. Prevent further leakage or spillage if safe to do so. Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Should not be released into the environment.

Methods and material for containment and cleaning up

Methods for Containment Not available.

Methods for Clean-up Evacuate personnel to safe areas. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Clean contaminated surface thoroughly. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Ground and bond containers when transferring material. Take precautionary measures against static discharges.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Handling Use only in an area equipped with a safety shower. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation. Use only in well-ventilated areas. Do not breathe vapours or spray mist. Avoid contact with eyes, skin and clothing. Avoid repeated exposure. Keep away from open flames, hot surfaces and sources of ignition. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Hygroscopic. Protect from moisture.

Incompatible Materials Strong Acids. Carbon dioxide (CO₂). Acid anhydrides. Acid chlorides. Mineral acids. Acids. Explosive reaction with osmium (VIII) oxide.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|-------------------------------------|-----------|----------|------------|
| 1H-Imidazole, 1-Methyl- 616-47-7 | - | - | - |

Appropriate engineering controls

Engineering Controls Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tight sealing safety goggles. Face protection shield.

| | |
|---------------------------------------|---------------------------------------------------------------------------|
| Skin and body protection | Use suitable eye protection and gloves. |
| Respiratory Protection | In case of insufficient ventilation, wear suitable respiratory equipment. |
| General Hygiene Considerations | Handle in accordance with good industrial hygiene and safety practice. |

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | |
|-----------------------|---------------------------------|
| Appearance | Clear Colorless to Light yellow |
| Physical State | Liquid |
| Odor | Amine-like |
| Odor Threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|-----------------------------------------------|--------------------------|-------------------------|
| pH | No data available | |
| Melting point / Freezing point | No data available | Literary Reference |
| Boiling point / boiling range | 198 °C | |
| Flash Point | 92 °C | CC (closed cup) |
| Evaporation Rate | | |
| Flammability (solid, gas) | | |
| Flammability Limit in Air | | |
| Upper flammability limit | 15.7% | |
| Lower flammability limit | 2.7% | |
| Vapor Pressure | No information available | |
| Vapor Density | Not available | |
| Specific Gravity | No information available | |
| Water Solubility | Soluble | |
| Solubility in other solvents | No information available | |
| Partition coefficient: n-octanol/water | Not available | |
| Autoignition temperature °C | 525 °C | Estimated |
| Decomposition temperature | No data available | |
| Kinematic Viscosity | No information available | |
| Dynamic Viscosity | Not available | |
| Explosive Properties | No information available | |
| Oxidizing Properties | No information available | |

Other Information

| | |
|-------------------------|-------------------------------------|
| Softening Point | No information available |
| Molecular Weight | 82.11 g/mol |
| VOC content | No information available |
| Density | 1.03 g/cm ³ at 20 Deg. C |
| Bulk Density | No information available |

10. STABILITY AND REACTIVITY

| | |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity | Not applicable. |
| Chemical Stability | Stable under normal conditions |
| Hazardous Polymerization | None under normal processing Hazardous polymerization does not occur |
| Conditions to Avoid | Keep away from open flames, hot surfaces and sources of ignition. Hygroscopic. Protect from moisture. Contact with metal may evolve flammable hydrogen gas. |
| Incompatible Materials | Strong Acids. Carbon dioxide (CO ₂). Acid anhydrides. Acid chlorides. Mineral acids. Acids. Explosive reaction with osmium (VIII) oxide. |
| Hazardous Decomposition Products | Carbon monoxide. Carbon dioxide (CO ₂). Nitrogen oxides (NO _x). |

Possibility of Hazardous Reactions

Hazardous polymerization may occur

11. TOXICOLOGICAL INFORMATION

| | |
|----------------------------|---------------------------------------------------------------------------------------------------|
| Product Information | No information or data specific to the product on this toxicological (health) effect is available |
| Oral LD50 | 1130 mg/kg; (rat) |
| Dermal LD50 | 400 - 640 mg/kg; (rabbit) |

The following values are calculated based on chapter 3.1 of the GHS document .

| | |
|------------------------|-----------|
| ATEmix (oral) | 500 mg/kg |
| ATEmix (dermal) | 300 mg/kg |

Information on likely routes of exposure

| | |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eyes | Corrosive. Causes burns. Conjunctivitis. May cause corneal injury. Avoid contact with eyes. |
| Skin | Toxic in contact with skin. Corrosive. Causes burns. Symptoms may be delayed. May cause cyanosis. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color. Avoid contact with skin. |
| Inhalation | Toxic by inhalation. Corrosive. Causes burns. Symptoms may be delayed. Causes chemical burns to the respiratory tract. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Aspiration may lead to pulmonary edema. Systemic health effects. Inhalation of high concentrations may cause CNS depression and asphyxiation. Avoid breathing vapors or mists. |
| Ingestion | Toxic if swallowed. Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Systemic health effects. Do not take internally. |

Information on toxicological effects

| | |
|-----------------|---------------------------|
| Symptoms | No information available. |
|-----------------|---------------------------|

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

| | |
|--------------------------------------|---------------------------------------------------------------------------|
| Irritation | Skin, rabbit: Severe skin irritation ; Eye, rabbit: Severe eye irritation |
| Serious eye damage/irritation | No information available. |
| Corrosivity | Corrosivity. Causes burns. |
| Skin Corrosion/Irritation | No information available. |
| Sensitization | No information available. |
| Reproductive Effects | No information available. |
| Mutagenic Effects | No information available. |
| Developmental Effects | No information available. |
| STOT - single exposure | No information available. |
| STOT - Repeated Exposure | No information available. |

| | |
|-----------------------------|------------------------------------------------|
| Chronic Toxicity | Avoid repeated exposure. Target Organ Effects. |
| Target Organ Effects | Eyes, Skin, Respiratory system, Blood. |
| Aspiration Hazard | No information available. |

Numerical measures of toxicity - Product Information

| | |
|--------------------|--------------------------|
| Oral LD50 | 1130 mg/kg (rat) |
| Dermal LD50 | 400 - 640 mg/kg (rabbit) |

12. ECOLOGICAL INFORMATION**Ecotoxicity**

There is no known ecological information for this product.

100 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

| | |
|-------------------------------------|---------------------------|
| Persistence/Degradability | No information available. |
| Bioaccumulation/Accumulation | No information available. |
| Mobility in Soil | No information available. |

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

| | |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Disposal Methods | Contact waste disposal services. Dispose of in accordance with local regulations. |
| Contaminated Packaging | Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal. |
| US EPA Waste Number | Not available |

14. TRANSPORT INFORMATION**DOT**

| | |
|----------------------------------------|---------------------------------------------------------------------------------|
| UN-No | UN2922 |
| Proper Shipping Name | Corrosive liquid, toxic, n.o.s |
| Hazard Class | 8 |
| Subsidiary Class | 6.1 |
| Packing Group | II |
| Description | UN2922, CORROSIVE LIQUIDS, TOXIC, N.O.S. (1H-Imidazole, 1-Methyl-), 8 (6.1), II |
| Emergency Response Guide Number | 154 |

TDG

| | |
|-----------------------------|---------------------------------|
| UN-No | UN2922 |
| Proper Shipping Name | Corrosive liquid, toxic, n.o.s. |
| Hazard Class | 8 |
| Subsidiary Class | 6.1 |

| | |
|--------------------------------|------------------------------------------------------|
| Packing Group | II |
| Description | UN2922, Corrosive liquid, toxic, n.o.s., 8 (6.1), II |
| <u>MEX</u> | |
| UN-No | UN2922 |
| Proper Shipping Name | Corrosive liquid, toxic, n.o.s. |
| Hazard Class | 8 |
| Subsidiary Class | 6.1 |
| Packing Group | II |
| Description | UN2922, Corrosive liquid, toxic, n.o.s., 8 (6.1), II |
| <u>ICAO</u> | |
| UN-No | UN2922 |
| Proper Shipping Name | Corrosive liquid, toxic, n.o.s. |
| Hazard Class | 8 |
| Subsidiary Class | 6.1 |
| Packing Group | II |
| Description | UN2922, Corrosive liquid, toxic, n.o.s., 8 (6.1), II |
| <u>IATA</u> | |
| UN-No | UN2922 |
| Proper Shipping Name | Corrosive liquid, toxic, n.o.s. |
| Hazard Class | 8 |
| Subsidiary Class | 6.1 |
| Packing Group | II |
| Description | UN2922, Corrosive liquid, toxic, n.o.s., 8 (6.1), II |
| <u>IMDG/IMO</u> | |
| UN-No | UN2922 |
| Proper Shipping Name | Corrosive liquid, toxic, n.o.s. |
| Hazard Class | 8 |
| Subsidiary Class | 6.1 |
| Packing Group | II |
| EmS No. | F-A, S-B |
| Description | UN2922, Corrosive liquid, toxic, n.o.s., 8 (6.1), II |
| <u>RID</u> | |
| UN-No | UN2922 |
| Proper Shipping Name | Corrosive liquid, toxic, n.o.s. |
| Hazard Class | 8 |
| Packing Group | II |
| Classification Code | CT1 |
| Description | UN2922, Corrosive liquid, toxic, n.o.s., 8 (6.1), II |
| ADR/RID-Labels | 8 + 6.1 |
| <u>ADR</u> | |
| UN-No | UN2922 |
| Proper Shipping Name | Corrosive liquid, toxic, n.o.s. |
| Hazard Class | 8 |
| Packing Group | II |
| Classification Code | CT1 |
| Tunnel Restriction Code | (E) |
| Description | UN2922, Corrosive liquid, toxic, n.o.s., 8 (6.1), II |
| ADR/RID-Labels | 8 + 6.1 |
| <u>ADN</u> | |
| Proper Shipping Name | Corrosive liquid, toxic, n.o.s. |
| Hazard Class | 8 |
| Packing Group | II |
| Classification Code | CT1 |
| Special Provisions | 274, 802 |
| Description | UN2922, Corrosive liquid, toxic, n.o.s., 8 (6.1), II |
| Hazard Labels | 8 + 6.1 |

| | |
|------------------------|----------------|
| Limited Quantity | 1 L |
| Ventilation | VE02 |
| Equipment Requirements | PP, EP, TOX, A |

15. REGULATORY INFORMATION

International Inventories

| | |
|---------------------|-----------------|
| U.S.A. (TSCA) | Complies |
| Canada (DSL) | Complies |
| EU (EINECS) | Complies |
| EU (ELINCS) | Does not comply |
| Japan (ENCS) | Complies |
| China (IECSC) | Complies |
| Korea (KECL) | Complies |
| Philippines (PICCS) | Complies |
| Australia (AICS) | Complies |

| Chemical Name | U.S.A. (TSCA) | Canada (DSL) | EU (EINECS) | EU (ELINCS) | |
|---------------------------------------------|-----------------------------|---------------|--------------|---------------------|------------------|
| 1H-Imidazole, 1-Methyl- | Present | Present | Present | - | |
| Component | Japan (ENCS) | China (IECSC) | Korea (KECL) | Philippines (PICCS) | Australia (AICS) |
| 1H-Imidazole, 1-Methyl- 616-47-7 (100) | Present (5)-802;(5)-5813 | Present | Present | Present | Present |
| Chemical Name | Mexico INV | | Taiwan INV | | |
| 1H-Imidazole, 1-Methyl- 616-47-7 | Present | | - | | |

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | No |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any HAPs.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and

Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

State Right-to-Know

This product does not contain any State Right-to-Know chemicals.

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

Canada

WHMIS Statement

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

NFPA

Health 3

Flammability 2

Instability 0

Physical Hazard 0



Issuing Date

23-Jul-2013

Revision Date

31-Aug-2016

Revision Summary

Not available

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 Safety Data Sheet