

SAFETY DATA SHEET (SDS)

Version 1.0

Issue Date: 27.03.2024

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

- Product name: 1-Methylimidazole
- CAS-No.: 616-47-7

1.2 Relevant identified uses of the substance or mixture and uses advised against

- Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

- Company: MR TEK LIMITED
- Address: ROOM 06, 13A/F, SOUTH TOWER, WORLD FINANCE CENTER, HARBOUR CITY, 17 CANTON ROAD, TSIM SHA TSUI, KOWLOON, HONGKONG
- Telephone: +1 314 771-5765
- Fax: +1 800 325-5052

1.4 Emergency telephone

- Emergency Phone #: 800-424-9300 CHEMTREC (USA); +1-703 527-3887 CHEMTREC (International)
(24 Hours/day; 7 Days/week)

SECTION 2: Hazards identification

2.1 Classification of the substance/mixture

Hazard Classification	Hazard Statement
Acute toxicity, (Category 4)	H302: Harmful if swallowed.
Acute toxicity, (Category 3)	H311: Toxic in contact with skin.
Skin corrosion, (Sub-category 1B)	H314: Causes severe skin burns and eye damage.
Serious eye damage, (Category 1)	H318: Causes serious eye damage.
Reproductive toxicity, (Category 2)	H361d: Suspected of damaging the unborn child.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008



- Pictogram:
- Signal Word: Danger
- Hazard Statements: H302, H311, H314, H318, H361d
 - Harmful if swallowed.
 - Toxic in contact with skin.
 - Causes severe skin burns and eye damage.
 - Causes serious eye damage.
 - Suspected of damaging the unborn child.
- Precautionary Statements:
 - P202: Do not handle until all safety precautions have been read and understood.
 - P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
 - P301 + P312: IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.

- P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing.
Rinse skin with water.
 - P304 + P340 + P310: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
 - P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Supplemental Hazard Statements: None

2.3 Other hazards

- This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
- **Ecological information:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
- **Toxicological information:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Basic Information	Details
Formula	C ₄ H ₆ N ₂
Molecular weight	82.10 g/mol
CAS-No.	616-47-7
EC-No.	210-484-7
Index-No.	613-035-00-7

Component	CAS-No.	EC-No.	Index-No.	Classification	Concentration
1-Methylimidazole	616-47-7	210-484-7	613-035-00-7	Acute Tox. 4; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; Repr. 2; H302, H311, H314, H318, H361d	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

- **General advice:** First aiders need to protect themselves. Show this Material Safety Data Sheet to the doctor in attendance.
- **If inhaled:** Move the person to fresh air. Call a physician immediately.
- **In case of skin contact:** Take off immediately all contaminated clothing. Rinse skin with water or shower. Call a physician immediately.
- **In case of eye contact:** Rinse eyes thoroughly with plenty of water. Remove contact lenses if present and easy to do. Immediately call an ophthalmologist.
- **If swallowed:** Give the victim up to two glasses of water. Avoid inducing vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralize.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see Section 2.2) and/or in Section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

- **Suitable extinguishing media:** Water, Foam, Carbon dioxide (CO₂), Dry powder
- **Unsuitable extinguishing media:** No limitations of extinguishing agents are given for this substance/mixture.

5.2 Special hazards arising from the substance or mixture

- Hazardous combustion products: Carbon oxides, Nitrogen oxides (NO_x)
- Other hazards: Vapors may form an explosive mixture with air; Combustible; Vapors are heavier than air and may spread along floors; Forms explosive mixtures with air on intense heating; Hazardous combustion gases or vapors may develop in case of fire.

5.3 Advice for firefighters

Stay in the danger area only with self-contained breathing apparatus. Prevent skin contact by maintaining a safe distance or wearing suitable protective clothing.

5.4 Further information

Remove containers from the danger zone and cool them with water. Suppress gases/vapors/mists with a water spray jet. Prevent fire-extinguishing water from contaminating surface water or groundwater systems.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Advice for non-emergency personnel: Do not breathe vapors or aerosols. Avoid contact with the substance. Ensure adequate ventilation. Keep away from heat and ignition sources. Evacuate the danger area, follow emergency procedures, and consult an expert.
- For personal protection, see Section 8.

6.2 Environmental precautions

Do not allow the product to enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, contain, and pump off spills. Observe material restrictions (see Sections 7 and 10). Carefully absorb spills with liquid-absorbent material (e.g., Chemisorb®). Dispose of waste properly and clean the affected area.

6.4 Reference to other sections

For disposal, see Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- **Advice on fire and explosion protection:** Keep away from open flames, hot surfaces, and ignition sources. Take precautionary measures against static discharge.
- **Hygiene measures:** Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after handling the substance.
- For additional precautions, see Section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

- **Storage conditions:** Handle under nitrogen; protect from moisture. Store under nitrogen in a tightly closed container. Keep in a well-ventilated area. Store in a locked area accessible only to qualified or authorized personnel. (Note: The substance is hygroscopic.)
- **Storage class** (TRGS 510): 6.1A: Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

7.3 Specific end use(s)

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters: No data available

8.2 Exposure controls

Personal protective equipment

- **Eye/face protection:** Use eye protection tested and approved under government standards such as NIOSH (US) or EN 166 (EU). Tightly fitting safety goggles are recommended.
- **Skin protection:**
 - **Full contact:** Material: Butyl-rubber; Minimum layer thickness: 0.7 mm; Breakthrough time: 480 min; Material tested: Butoject® (KCL 898).
 - **Splash contact:** Material: Latex gloves; Minimum layer thickness: 0.6 mm; Breakthrough time: 30 min; Material tested: Lapren® (KCL 706 / Aldrich Z677558, Size M).

Note: This recommendation applies only to the product stated in this SDS (as supplied) and for its designated use. For dissolving/mixing with other substances or conditions deviating from EN 16523-1, contact the supplier of CE-approved gloves (e.g., KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

- **Body protection:** Protective clothing
- **Respiratory protection:** Recommended filter type: Filter A (acc. to DIN 3181) for vapors of organic compounds. The employer must ensure maintenance, cleaning, and testing of respiratory protective devices per the manufacturer's instructions, with proper documentation of these measures.

Control of environmental exposure

Do not allow the product to enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Property	Details
Melting point/range	-6 °C
Boiling range	197 - 199 °C at 1.013 hPa
Flammability (solid)	No data available
Explosive limits	Lower explosion limit: 2.7 %(V); Upper explosion limit: 15.7 %(V)
Flash point	92 °C (closed cup)
Autoignition temperature	488 °C at 1.013 - 1.019 hPa
Decomposition temperature	No data available
pH	9.5 - 11.5 (at 100 g/l, 20 °C)
Viscosity	Kinematic: No data available; Dynamic: 1.89 mPa·s at 20 °C
Octanol/water partition coefficient (log Pow)	-0.19 at 25 °C
Vapor pressure	0.5 hPa at 20 °C
Relative density	1.03 g/mL at 25 °C
Appearance	No data available
Explosive properties	No data available

Oxidizing properties

No data available

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Forms explosive mixtures with air on intense heating. A range of approximately 15 Kelvin below the flash point is considered critical.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Violent reactions may occur with: Acid anhydrides, Acid chlorides, Strong oxidizing agents, Acids.

10.4 Conditions to avoid

Exposure to moisture; Strong heating.

10.5 Incompatible materials

Rubber, various plastics.

10.6 Hazardous decomposition products

In case of fire, see Section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

- **Acute toxicity:**
 - LD₅₀ Oral - Rat (male and female) - 1,144 mg/kg (OECD Test Guideline 401)
 - Acute toxicity estimate (Oral) - 1,144 mg/kg (ATE value derived from LD₅₀ /LC₅₀)
 - Inhalation: No data available
 - LD₅₀ Dermal - Rabbit (male and female) - 400 - 600 mg/kg (OECD Test Guideline 402)
 - Acute toxicity estimate (Dermal) - 400 mg/kg (ATE value derived from LD₅₀ /LC₅₀)
- **Skin corrosion/irritation:** Skin - Rabbit; Result: Corrosive (OECD Test Guideline 404)
- **Serious eye damage/eye irritation:** Eyes - Rabbit; Result: Corrosive (OECD Test Guideline 405);
Remarks: Causes serious eye damage.
- **Respiratory or skin sensitization:** No data available
- **Germ cell mutagenicity:** No data available; Test Type: Chromosome aberration test (in vitro); Test system: Chinese hamster lung cells; Method: OECD Test Guideline 487; Result: Negative
- **Carcinogenicity:** No data available
- **Reproductive toxicity:** Suspected of damaging the unborn child.
- **Specific target organ toxicity - single exposure:** No data available
- **Specific target organ toxicity - repeated exposure:** No data available
- **Aspiration hazard:** No data available

11.2 Additional Information

- **Endocrine disrupting properties:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
- **Repeated dose toxicity:** Rat (male and female) - Oral - NOAEL (No observed adverse effect level) - 30 mg/kg
- **RTECS:** NI7000000

SECTION 12: Ecological information

12.1 Toxicity

- 96 h static test EC₅₀ - Desmodesmus subspicatus (green algae) - 180.7 mg/L

12.2 Persistence and degradability

- **Biodegradability:** Aerobic - Exposure time 28 d; Result: 0 - 10 % - Not readily biodegradable (OECD Test Guideline 301F)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

May be harmful to aquatic organisms due to pH shift.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

14.1 UN number

- ADR/RID: 2922
- IMDG: 2922
- IATA: 2922

14.2 UN proper shipping name

- ADR/RID: CORROSIVE LIQUID, TOXIC, N.O.S. (1-Methylimidazole)
- IMDG: CORROSIVE LIQUID, TOXIC, N.O.S. (1-Methylimidazole)
- IATA: Corrosive liquid, toxic, n.o.s. (1-Methylimidazole)

14.3 Transport hazard class(es)

- ADR/RID: 8 (6.1)
- IMDG: 8 (6.1)
- IATA: 8 (6.1)

14.4 Packaging group

- ADR/RID: II
- IMDG: II
- IATA: II

14.5 Environmental hazards

- ADR/RID: No
- IMDG Marine pollutant: No
- IATA: No

14.6 Special precautions for user

- Tunnel restriction code: (E)
- Further information: No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This Material Safety Data Sheet complies with the requirements of Regulation (EC) No. 1907/2006.

- Other regulations: Observe work restrictions for maternity protection per Dir 92/85/EEC or stricter national regulations (where applicable). Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

A chemical safety assessment was not carried out for this product.

SECTION 16: Other information

Full text of H-Statements

H-Statement	Full Text
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.

H318	Causes serious eye damage.
H361d	Suspected of damaging the unborn child.

Relevant changes since previous version

- Section 2: Hazards identification (updated hazard classification details)

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); EC_x - Concentration associated with x% response; EL_x - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErC_x - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC₅₀ - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC₅₀ - Lethal Concentration to 50 % of a test population; LD₅₀ - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT

- Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

The information provided is believed to be correct but is not exhaustive and is intended solely as a guideline. It is based on current knowledge of the chemical substance or mixture and applies to appropriate safety precautions for the product. It does not constitute a guarantee of the product's properties. MR TEK LIMITED shall not be liable for any damage resulting from handling or contact with the above product.

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