

**Safety Data Sheet**  
 acc. to OSHA HCS

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Printing date 07/14/2018  
 Reviewed on 07/14/2018  
 Version number: 4

## 1 Identification

- **Product identifier**
- **Trade name:** Imidazole
- **Article number:** A1378
- **CAS Number:**  
288-32-4
- **EC number:**  
206-019-2
- **Index number:**  
613-319-00-0
- **Application of the substance / the mixture** Laboratory chemical
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
AppliChem GmbH  
Ottoweg 4  
D-64291 Darmstadt
- **Information department:** Dept. Compliance
- **Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

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## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
 Acute Tox. 4 H302 Harmful if swallowed.  
 Skin Corr. 1C H314 Causes severe skin burns and eye damage.  
 Repr. 1B H360 May damage fertility or the unborn child.
- **Label elements**
- **GHS label elements**  
 The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**  
  
 GHS05 GHS07 GHS08
- **Signal word** Danger
- **Hazard statements**  
 H302 Harmful if swallowed.  
 H314 Causes severe skin burns and eye damage.  
 H360 May damage fertility or the unborn child.
- **Precautionary statements**  
 P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P260 Do not breathe dusts or mists.  
 P264 Wash thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.  
 P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

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P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a poison center/doctor.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P321 Specific treatment (see on this label).  
P363 Wash contaminated clothing before reuse.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 3  
Fire = 1  
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = \*3  
Fire = 1  
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
288-32-4 Imidazole
- **Identification number(s)**
- **EC number:** 206-019-2
- **Index number:** 613-319-00-0

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** Seek medical treatment.
- **After inhalation:** Supply fresh air or oxygen; call for doctor.
- **After skin contact:**  
Immediately wash with water and soap and rinse thoroughly.  
Seek medical treatment.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

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## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.  
In case of fire, the following can be released:  
CO, CO<sub>2</sub>  
Hydrogen cyanide (HCN)  
Nitrogen oxides (NO<sub>x</sub>)
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Do not inhale dust.  
Avoid substance contact.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**
  - **PAC-1:** 0.66 mg/m<sup>3</sup>
  - **PAC-2:** 7.3 mg/m<sup>3</sup>
  - **PAC-3:** 44 mg/m<sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Thorough dedusting.  
Prevent formation of dust.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Recommended storage temperature:** +15 - +25°C
- **Storage class:** 6.1 D
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.  
Filter P3
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact gloves made of the following materials are suitable:**  
Nitrile rubber, NBR  
Recommended thickness of the material:  $\geq 0.11$  mm  
Value for the permeation: Level  $\geq 480$  min
- **As protection from splashes gloves made of the following materials are suitable:**  
Nitrile rubber, NBR  
Recommended thickness of the material:  $\geq 0.11$  mm  
Value for the permeation: Level  $\geq 480$  min
- **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Solid
Color:	Yellow
- **Odor:** Amine-like
- **pH-value:** 9-11
- **Change in condition**

Melting point/Melting range:	88-90 °C (190.4-194 °F)
Boiling point/Boiling range:	256 °C (492.8 °F)
- **Flash point:** 145 °C (293 °F)

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- |   |   |
|---|---|
| · <b>Flammability (solid, gaseous):</b>                           | Product is not flammable.                     |
| · <b>Ignition temperature:</b>                                    | 480 °C (896 °F)                               |
| · <b>Danger of explosion:</b>                                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>  |   |
| <b>Lower:</b>   | Not determined.                               |
| <b>Upper:</b>   | Not determined.                               |
| · <b>Vapor pressure:</b>  | Not applicable.                               |
| · <b>Density at 20 °C (68 °F):</b>                                | 1.03 g/cm <sup>3</sup> (8.595 lbs/gal)        |
| · <b>Bulk density:</b>  | 600 kg/m <sup>3</sup>                         |
| · <b>Solubility in / Miscibility with Water at 20 °C (68 °F):</b> | 663 g/l                                       |
| · <b>Partition coefficient (n-octanol/water):</b>                 | -0.02000118                                   |
| · <b>Viscosity:</b>   |   |
| <b>Dynamic:</b>   | Not applicable.                               |
| <b>Kinematic:</b>   | Not applicable.                               |
| · <b>Other information</b>  | No further relevant information available.    |

## 10 Stability and reactivity

- **Reactivity** No dangerous reactions known.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**  
acids  
acid anhydrides  
strong oxidants
- **Hazardous decomposition products:** In the event of fire: See chapter 5

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**

Components	Type	Value	Species
Oral LD50		970 mg/kg (rat)	

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.

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- OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:**


Type of test	Effective concentration	Method	Assessment
EC50/72 h	133 mg/l	(Aquatic plants)	
EC50/48 h	342 mg/l	(daphnia magna)	
LC50/48 h	280 mg/l	(fish)	

- **Persistence and degradability** The product is easily biodegradable.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
Water hazard class 2 (Assessment by list): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Chemicals must be disposed of in compliance with the respective national regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.



## 14 Transport information

• <b>UN-Number</b>	
• <b>DOT, ADR, IMDG, IATA</b>	UN3263
• <b>UN proper shipping name</b>	
• <b>DOT, ADR</b>	Corrosive solid, basic, organic, n.o.s. (Imidazole)
• <b>IMDG, IATA</b>	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (Imidazole)
• <b>Transport hazard class(es)</b>	
• <b>DOT</b>	
	
• <b>Class</b>	8 Corrosive substances

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· Label	8
· ADR	
	
· Class	8 (C8) Corrosive substances
· Label	8
· IMDG, IATA	
	
· Class	8 Corrosive substances
· Label	8
· Packing group	
· DOT, ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	88
· EMS Number:	F-A,S-B
· Segregation groups	Alkalis
· Stowage Category	A
· Segregation Code	SG35 Stow "separated from" acids.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· IMDG	
· Limited quantities (LQ)	5 kg
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· UN "Model Regulation":	UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (IMIDAZOLE), 8, III

## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara
- Section 355 (extremely hazardous substances): Substance is not listed.
- Section 313 (Specific toxic chemical listings): Substance is not listed.
- TSCA (Toxic Substances Control Act): Substance is listed.
- Proposition 65
- Chemicals known to cause cancer: Substance is not listed.
- Chemicals known to cause reproductive toxicity for females: Substance is not listed.
- Chemicals known to cause reproductive toxicity for males: Substance is not listed.

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- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Cancerogenity categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements**  
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05 GHS07 GHS08

- **Signal word** Danger
- **Hazard statements**  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H360 May damage fertility or the unborn child.
- **Precautionary statements**  
P201 Obtain special instructions before use.  
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P308+P313 IF exposed or concerned: Get medical advice/attention.  
P321 Specific treatment (see on this label).  
P363 Wash contaminated clothing before reuse.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Dept. Compliance
- **Date of preparation / last revision** 07/14/2018 / 3
- **Abbreviations and acronyms:**  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organisation  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances

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CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1C: Skin corrosion/irritation – Category 1C

Repr. 1B: Reproductive toxicity – Category 1B

· **\* Data compared to the previous version altered.**

US