

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Version: 3.1

Date of issue: 02/12/2010 Revision date: 22/05/2020 Supersedes: 10/11/2016

DLM-3033

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

1.1. Product identifier

Product form : Substance

Substance name : IMIDAZOLE (D4, 98%) EC-No. : 206-019-2 (Unlabeled)

CAS-No. : 6923-01-9

REACH registration No : 01-2119485825-24

Product code : DLM-3033 Formula : C3D4N2

Synonyms : 1,3-Diaza-2,4-cyclopentadiene / Glyoxaline

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

1.2.1. Relevant identified uses

Main use category : Professional use

Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.

50 Frontage Road Andover, MA 01810

USA

USA: 1-800-322-1174 Int: 1-978-749-8000 cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours) International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral) H302 Skin Corr. 1A H314 Repr. 1B H360

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xn; R22

Repr.Cat.1; R60 Repr.Cat.1; R61

R52 C; R35

Full text of R-phrases: see section 16

GHS-US classification

Acute Tox. 4 (Oral) H302 Skin Corr. 1A H314 Repr. 1A H360 Aquatic Acute 3 H402

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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IMIDAZOLE (D4, 98%) DLM-3033

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2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)







GHS08

8 G

GHS

Signal word (CLP) : Danger

Hazard statements (CLP) : H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H360 - May damage fertility. May damage the unborn child. (in contact with skin, if inhaled, if

swallowed)

Precautionary statements (CLP)

: P260 - Do not breathe dust, fume, gas, mist, spray, vapors.

P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product.

P280 - Wear protective clothing, protective gloves.

P301+P312 - IF SWALLOWED: Call a doctor, a POISON CENTER if you feel unwell.

P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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.

GHS-US labeling

Hazard pictograms (GHS-US)





GHS05



GHS07

508

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H360 - May damage fertility or the unborn child (Dermal, Inhalation, oral)

H402 - Harmful to aquatic life

Precautionary statements (GHS-US)

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P260 - Do not breathe dust, fume, gas, mist, spray, vapors. P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product.

P273 - Avoid release to the environment.

P280 - Wear protective clothing, protective gloves.

P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting

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

P308+P313 - If exposed or concerned: Get medical advice/attention.

P310 - Immediately call a poison center or doctor

P321 - Specific treatment (see Hazard pictograms (CLP) on this label)

P330 - Rinse mouth.

P363 - Wash contaminated clothing before reuse.

P405 - Store locked up.

P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

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Name	Product identifier	%	Classification according to Directive 67/548/EEC
IMIDAZOLE (D4, 98%)	(CAS-No.) 6923-01-9 (EC-No.) 206-019-2 (Unlabeled) (EC Index-No.) (REACH-no) 01-2119485825-24	100	Xn; R22 Repr.Cat.1; R60 Repr.Cat.1; R61 R52 C; R35
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	GHS-US classification
IMIDAZOLE (D4, 98%) (Main constituent)	(CAS-No.) 6923-01-9	100	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Repr. 1A, H360 Aquatic Acute 3, H402

Full text of H-phrases: see section 16

Mixtures

Not applicable

SECTION 4: First aid measures

Description of first aid measures

First-aid measures general : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of

dangerous area.

First-aid measures after inhalation If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a

physician.

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. First-aid measures after skin contact

Consult a physician.

First-aid measures after eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue

rinsing eyes during transport to hospital.

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse First-aid measures after ingestion

mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : May damage fertility or the unborn child.

: May be harmful if inhaled. May cause respiratory tract irritation. Symptoms/effects after inhalation

Symptoms/effects after skin contact Causes severe skin burns.

Symptoms/effects after eye contact Causes severe skin burns and eye damage.

Symptoms/effects after ingestion : Harmful if swallowed.

Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Special hazards arising from the substance or mixture

No additional information available

5.3. **Advice for firefighters**

Firefighting instructions : Wear self contained breathing apparatus for fire fighting if necessary.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. **Emergency procedures** Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

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6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

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6.3. Methods and material for containment and cleaning up

For containment : Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal.

Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate

exhaust ventilation at places where dust is formed.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before

breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container tightly closed in a dry and well-ventilated place.

Storage conditions : Store at room temperature away from light and moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

IMIDAZOLE (D4, 98%) (6923-01-9)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	1.5 mg/kg bodyweight/day
Acute - systemic effects, inhalation	10.6 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	0.13 mg/l
PNEC aqua (marine water)	0.013 mg/l
PNEC aqua (intermittent, freshwater)	1.3 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.336 mg/kg dwt
PNEC sediment (marine water)	0.0336 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.0425 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

8.2. Exposure controls

Personal protective equipment

Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

: Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.

. Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Materials for protective clothing : Wear suitable protective clothing and gloves.

Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous

substance at the work place.

Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

Environmental exposure controls : Avoid release to the environment.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Crystalline powder

Molecular mass : 72.1 g/mol (Labeled)

Color : White
Odor : Amine-like
Odor threshold : No data available

pH : 9 - 11 at 100 g/l at 23 °C (73 °F)

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : 88 - 91 °C (190 - 196 °F)

Freezing point : No data available Boiling point : 256 °C (493 °F)

Flash point : 145 °C (293 °F) - closed cup

Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available

Vapor pressure : 0.003 hPa (0.002 mmHg) at 20 °C (68 °F)

Relative vapor density at 20 °C : No data available

Relative density : 1.03 g/cm3 at $20 ^{\circ}\text{C}$ (68 $^{\circ}\text{F}$) Solubility : Water: 633 g/l at $20 ^{\circ}\text{C}$ (68 $^{\circ}\text{F}$)

Log Pow : -0.02 at 25 °C (77 °F)
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Explosion limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Acids. Acid anhydrides. Strong oxidizing agent.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO2). Nitrogen oxides. Hydrogen cyanide (hydrocyanic acid).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

-	
IMIDAZOLE (D4, 98%) (6923-01-9)	
LD50 oral rat	970 mg/kg
ATE CLP (oral)	970.000 mg/kg body weight
Skin corrosion/irritation	: Skin - Rabbit - Result: Causes burns.
	pH: 9 - 11 at 100 g/l at 23 °C (73 °F)
Serious eye damage/irritation	: Eye damage - Category 1 - Implicit

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pH: 9 - 11 at 100 g/l at 23 °C (73 °F)

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Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Did not show mutagenic effects in animal experiments. Tests on bacterial or mammalian cell

cultures did not show mutagenic effects.

Carcinogenicity : Not classified

Reproductive toxicity : May damage the unborn child. Presumed human reproductive toxicant.

Specific target organ toxicity – single exposure : Not classified : Not classified : Not classified

Specific target organ toxicity – repeated

exposure

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Aspiration hazard : Not classified

Potential Adverse human health effects and

symptoms

: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory tract irritation.

Symptoms/effects after skin contact : Causes severe skin burns.

Symptoms/effects after eye contact : Causes severe skin burns and eye damage.

Symptoms/effects after ingestion : Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life.

IMIDAZOLE (D4, 98%) (6923-01-9)		
LC50 fish 1	280 mg/l static test LC50 - Leuciscus idus (Golden orfe) - 48 h	
EC50 Daphnia 1	341.5 mg/l Daphnia (Water flea) - 48 h	
EC50 other aquatic organisms 1	45 mg/l Other - 0.5 h	
ErC50 (algae)	133 mg/l static test EC50 - Scenedesmus quadricauda (Green algae) - 72 h	

12.2. Persistence and degradability

IMIDAZOLE (D4, 98%) (6923-01-9)	
Persistence and degradability	Aerobic - Exposure time 19 d.
Biodegradation	86 % Readily biodegradable

12.3. Bioaccumulative potential

IMIDAZOLE (D4, 98%) (6923-01-9)	
Log Pow	-0.02 at 25 °C (77 °F)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local

environmental control regulations.

Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed

professional waste disposal service to dispose of this material.

Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No.(DOT) : 3263 DOT NA no. UN3263

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Corrosive solid, basic, organic, n.o.s.

(Imidazole)

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Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

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Hazard labels (DOT) : 8 - Corrosive



DOT Symbols : G - Identifies PSN requiring a technical name

Packing group (DOT) : II - Medium Danger

DOT Special Provisions (49 CFR 172.102) : IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1,

13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).

IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle.

IP4 - Flexible, fiberboard or wooden IBCs must be sift-proof and water-resistant or be fitted with

a sift-proof and water-resistant liner.

T3 - 2.65 178.274(d)(2) Normal...... 178.275(d)(2)

TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Packaging Non Bulk (49 CFR 173.xxx) : 212
DOT Packaging Bulk (49 CFR 173.xxx) : 240

14.3. Additional information

Other information : No supplementary information available.

Special transport precautions : Not dangerous goods.

Overland transport

Packing group (ADR) : II

Class (ADR) : 8 - Corrosive substances

Hazard identification number (Kemler No.) : 80
Classification code (ADR) : C8

Hazard labels (ADR) : 8 - Corrosive substances



Orange plates :

80 3263

Tunnel restriction code (ADR) : E
Limited quantities (ADR) : 1kg
EAC : 2X
Excepted quantities (ADR) : E2

Transport by sea

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a

passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this

section is exceeded.

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DOT Vessel Stowage Other : 52 - Stow "separated from" acids

MFAG-No : 154

Air transport

DOT Quantity Limitations Passenger aircraft/rail : 15 kg

(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 50 kg

CFR 175.75)

Civil Aeronautics Law : Corrosive substances

14.4. **Environmental hazards**

Other information : No supplementary information available.

Special precautions for user

Special transport precautions : Not dangerous goods.

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

IMIDAZOLE (D4, 98%) (6923-01-9)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporing requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporing requirements of the United States SARA Section 313.

15.2. International regulations

CANADA

IMIDAZOLE (D4, 98%) (6923-01-9)

Listed on the Canadian DSL (Domestic Substances List)

National regulations 15.2.1.

No additional information available

15.3. US State regulations

IMIDAZOLE (D4, 98%)(6923-01-9)		
U.S California - Proposition 65 - Carcinogens List	No	
U.S California - Proposition 65 - Developmental Toxicity	No	
U.S California - Proposition 65 - Reproductive Toxicity - Female	No	
U.S California - Proposition 65 - Reproductive Toxicity - Male	No	
State or local regulations	U.S Pennsylvania - RTK (Right to Know) List U.S New Jersey - Right to Know Hazardous Substance List	

SECTION 16: Other information

Other information

This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Repr. 1B	Reproductive toxicity Category 1B
Skin Corr. 1A	Skin corrosion/irritation Category 1A
H302	Harmful if swallowed

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H314	Causes severe skin burns and eye damage
H360	May damage fertility or the unborn child
R22	Harmful if swallowed
R35	Causes severe burns
R52	Harmful to aquatic organisms
R60	May impair fertility
R61	May cause harm to the unborn child
С	Corrosive
Xn	Harmful

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause

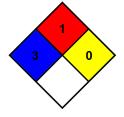
serious or permanent injury.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can

occur.

: 0 - Material that in themselves are normally stable, even NFPA reactivity

under fire conditions.



Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is

given

Flammability : 1 Slight Hazard Physical : 0 Minimal Hazard

CIL Substance SDS

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