

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: ZIF-67, 2-methylimidazole Cobalt Salt

Product Code: CO-OMX-01-P

CAS Number: N/A

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
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SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Skin corrosion (Category 1B), H314

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

GHS Label elements, including precautionary statements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram



Hazard statement(s)

H302

Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P312 + P330

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310
IF INHALED: Remove person to fresh air and keep comfortable for reathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 I
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
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.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Substance name : Zeolite Imidazolate Framework-67 (ZIF-67)

Synonyms : 2-Methylimidazole Cobalt Salts, ZIF-67, MOFs

Linear formula : $\text{Co}(\text{Hmim})_2$, Hmim=2-methylimidazole, $\text{C}_8\text{H}_{10}\text{N}_4\text{Co}$

Hazardous impurities: None known.

SECTION 4. FIRST AID MEASURES

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water.

Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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.

Indication of any immediate medical attention and special treatment needed

No data 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 data available

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

No data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust.

Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Suitable extinguishing media

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

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

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

Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Impervious clothing recommended. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator.

For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

1) Appearance Form: Solid, Purple

Powder

2) Odour No data available

3) Odour Threshold No data available

4) pH No data available

5) Melting point/freezing point No data available

6) Initial boiling point and boiling range No data available

7) Flash point Not applicable

8) Evaporation rate No data available

9) Flammability (solid, gas) No data available

10) Upper/lower flammability or explosive limits

No data available

11) Vapour pressure No data available

12) Vapour density No data available

13) Relative density No data available

14) Water solubility No data available

15) Partition coefficient: n- octanol/water No data available

16) Auto-ignition temperature No data available

17) Decomposition temperature No data available

18) Viscosity No data available

19) Explosive properties No data available

20) Oxidizing properties No data available

Other safety information

No data available

SECTION 10. STABILITY AND REACTIVITY

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

No data available

Incompatible materials

Strong acids, Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Cobalt / cobalt oxide.

Other decomposition products - No data available

In the event of fire: see section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

LD50 Oral - Mouse - 1.400 mg/kg

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: No available

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC50 - other fish - 286 mg/l - 96 h

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

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.

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

UN number

ADR/RID: 3263

IMDG: 3263

IATA: 3263

UN proper shipping name

ADR

RID: CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (2-Methylimidazole zinc salt)

IMDG: CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (2-Methylimidazole zinc salt)

IATA: Corrosive solid, basic, organic, n.o.s. (2-Methylimidazole zinc salt)

Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

Packaging group

ADR/RID: III IMDG: III IATA: III

Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

Special precaution for user

No data available

SECTION 15. REGULATORY INFORMATION

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.
