

United Nuclear

Scientific Equipment & Supplies

SAFETY DATA SHEET

Cobalt (pieces)

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

1. Identification

Product identifier

Product name Cobalt (pieces)

Internal identification Replaces M-1000-035

Recommended use of the chemical and restrictions on use

Application Exterior surface coating.

Uses advised against No specific uses advised against are identified.

Details of the supplier of the safety data sheet

Supplier **United Nuclear Scientific**
United Nuclear Scientific
125 N. 8th Street
Klamath Falls, OR 97601
541-205-6855
www.unitednuclear.com
sales@unitednuclear.com

Emergency telephone number

Emergency telephone **24 HR EMERGENCY Telephone Number**
VelocityEHS (USA): 800-255-3924

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified

Health hazards Resp. Sens. 1 - H334 Skin Sens. 1 - H317

Environmental hazards Aquatic Chronic 4 - H413

Label elements

Cobalt (pieces)

Pictogram



Signal word

Danger

Hazard statements

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H413 May cause long lasting harmful effects to aquatic life.

Precautionary statements

P261 Avoid breathing vapor/ spray.

P273 Avoid release to the environment.

P302+P352 If on skin: Wash with plenty of water.

P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.

P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.

P342+P311 If experiencing respiratory symptoms: Call a poison center/ doctor.

Contains

Cobalt

Other hazards

This product does not contain any substances classified as PBT or vPvB.

3. Composition/information on ingredients

Mixtures

Cobalt

0 - 100%

CAS number: 7440-48-4

Classification

Resp. Sens. 1 - H334

Skin Sens. 1 - H317

Aquatic Chronic 4 - H413

The Full Text for all Hazard Statements are Displayed in Section 16.

4. First-aid measures

Description of first aid measures

General information

Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.

Inhalation

Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. Rinse nose and mouth with water. Never give anything by mouth to an unconscious person. Get medical attention if symptoms are severe or persist. In the event of any sensitization symptoms developing, ensure further exposure is avoided.

Ingestion

Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel.

Skin Contact

It is important to remove the substance from the skin immediately. In the event of any sensitization symptoms developing, ensure further exposure is avoided. Remove contamination with soap and water or recognized skin cleansing agent. Get medical attention if symptoms are severe or persist after washing.

Eye contact

Rinse with water. Get medical attention if any discomfort continues.

Cobalt (pieces)

Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed

General information The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation May cause sensitization or allergic reactions in sensitive individuals.

Ingestion May cause sensitization or allergic reactions in sensitive individuals.

Skin contact May cause skin sensitization or allergic reactions in sensitive individuals. Prolonged contact may cause dryness of the skin.

Eye contact No specific symptoms known. May be slightly irritating to eyes.

Indication of immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically. May cause sensitization or allergic reactions in sensitive individuals.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Specific hazards None known.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Avoid inhalation of dust and vapors. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes.

Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.

Methods and material for containment and cleaning up

Cobalt (pieces)

| | |
|------------------------------------|--|
| Methods for cleaning up | Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. For waste disposal, see Section 13. |
| Reference to other sections | For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13. |

7. Handling and storage

Precautions for safe handling

| | |
|---|---|
| Usage precautions | Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers. |
| Advice on general occupational hygiene | Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse. |

Conditions for safe storage, including any incompatibilities

| | |
|----------------------------|--|
| Storage precautions | Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. |
| Storage class | Miscellaneous hazardous material storage. |

Specific end uses(s)

| | |
|----------------------------|---|
| Specific end use(s) | The identified uses for this product are detailed in Section 1.2. |
|----------------------------|---|

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

Cobalt

Long-term exposure limit (8-hour TWA): OSHA 0.1 mg/m³ dust and fume as Co

Long-term exposure limit (8-hour TWA): ACGIH 0.02 mg/m³ as Co

A3

OSHA = Occupational Safety and Health Administration.

ACGIH = American Conference of Governmental Industrial Hygienists.

A3 = Confirmed Animal Carcinogen with Unknown Relevance to Humans.

Cobalt (CAS: 7440-48-4)

Immediate danger to life and health 20 mg/m³

Exposure controls

Protective equipment



Cobalt (pieces)

| | |
|---|---|
| Appropriate engineering controls | Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients. |
| Eye/face protection | Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses. |
| Hand protection | It is recommended that chemical-resistant, impervious gloves are worn. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended. |
| Other skin and body protection | May cause skin sensitization or allergic reactions in sensitive individuals. Wear appropriate clothing to prevent repeated or prolonged skin contact. |
| Hygiene measures | Wash hands thoroughly after handling. Wash at the end of each work shift and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product. |
| Respiratory protection | Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. |
| Environmental exposure controls | Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |

9. Physical and Chemical Properties

Information on basic physical and chemical properties

| | |
|---|-------------------------|
| Appearance | Solid. |
| Color | Black. |
| Odor | No characteristic odor. |
| Odor threshold | Not applicable. |
| pH | Not applicable. |
| Melting point | Not available. |
| Initial boiling point and range | Not available. |
| Flash point | Not applicable. |
| Evaporation rate | Not applicable. |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | Not applicable. |
| Vapor pressure | Not available. |
| Vapor density | Not available. |
| Relative density | 8.9 @ 25°C |
| Bulk density | Not available. |

Cobalt (pieces)

| | |
|----------------------------------|---------------------|
| Solubility(ies) | Insoluble in water. |
| Partition coefficient | Not applicable. |
| Auto-ignition temperature | Not applicable. |
| Decomposition Temperature | Not available. |
| Viscosity | Not applicable. |
| Molecular weight | 58.69 |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | There are no known reactivity hazards associated with this product. |
| Stability | Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions. |
| Possibility of hazardous reactions | No potentially hazardous reactions known. |
| Conditions to avoid | There are no known conditions that are likely to result in a hazardous situation. |
| Materials to avoid | No specific material or group of materials is likely to react with the product to produce a hazardous situation. |
| Hazardous decomposition products | Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors. |

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitization

Respiratory sensitization There is evidence that the product can cause respiratory hypersensitivity.

Skin sensitization

Skin sensitization May cause skin sensitization or allergic reactions in sensitive individuals.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Cobalt (pieces)

| | |
|--|---|
| IARC carcinogenicity | None of the ingredients are listed or exempt. |
| <u>Reproductive toxicity</u> | |
| Reproductive toxicity - fertility | Based on available data the classification criteria are not met. |
| Reproductive toxicity - development | Based on available data the classification criteria are not met. |
| <u>Specific target organ toxicity - single exposure</u> | |
| STOT - single exposure | Not classified as a specific target organ toxicant after a single exposure. |
| <u>Specific target organ toxicity - repeated exposure</u> | |
| STOT - repeated exposure | Not classified as a specific target organ toxicant after repeated exposure. |
| <u>Aspiration hazard</u> | |
| Aspiration hazard | Not relevant. Solid. |
| <u>General information</u> | |
| General information | The severity of the symptoms described will vary dependent on the concentration and the length of exposure. |
| Inhalation | May cause sensitization or allergic reactions in sensitive individuals. |
| Ingestion | May cause sensitization or allergic reactions in sensitive individuals. |
| Skin Contact | May cause skin sensitization or allergic reactions in sensitive individuals. Prolonged contact may cause dryness of the skin. |
| Eye contact | No specific symptoms known. |
| Route of entry | Ingestion Inhalation Skin and/or eye contact |
| Target Organs | No specific target organs known. |
| Medical considerations | Skin disorders and allergies. |

12. Ecological Information

Toxicity

Toxicity Aquatic Chronic 4 - H413 May cause long lasting harmful effects to aquatic life.

Persistence and degradability

Persistence and degradability The degradability of the product is not known.

Bioaccumulative potential

Bio-Accumulative Potential No data available on bioaccumulation.

Partition coefficient Not applicable.

Mobility in soil

Mobility No data available.

Other adverse effects

Other adverse effects None known.

13. Disposal considerations

Waste treatment methods

Cobalt (pieces)

| | |
|----------------------------|--|
| General information | The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous. |
| Disposal methods | Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible. |

14. Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DoT).

UN Number

Not applicable.

UN proper shipping name

Not applicable.

Transport hazard class(es)

No transport warning sign required.

Packing group

Not applicable.

Environmental hazards

Environmentally Hazardous Substance

No.

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None of the ingredients are listed or exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

None of the ingredients are listed or exempt.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed or exempt.

SARA 313 Emission Reporting

None of the ingredients are listed or exempt.

Cobalt (pieces)

CAA Accidental Release Prevention

None of the ingredients are listed or exempt.

FDA - Essential Chemical

None of the ingredients are listed or exempt.

FDA - Precursor Chemical

None of the ingredients are listed or exempt.

SARA (311/312) Hazard Categories

None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals

None of the ingredients are listed or exempt.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-I)

None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances

None of the ingredients are listed or exempt.

Massachusetts "Right To Know" List

None of the ingredients are listed or exempt.

Rhode Island "Right To Know" List

None of the ingredients are listed or exempt.

Minnesota "Right To Know" List

None of the ingredients are listed or exempt.

New Jersey "Right To Know" List

None of the ingredients are listed or exempt.

Pennsylvania "Right To Know" List

None of the ingredients are listed or exempt.

Inventories

US - TSCA

All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification

None of the ingredients are listed or exempt.

16. Other information

| | |
|--------------------------|--|
| Training advice | Only trained personnel should use this material. |
| Revision comments | NOTE: Lines within the margin indicate significant changes from the previous revision. |
| Issued by | HS&E Manager. |

Cobalt (pieces)

| | |
|----------------------------------|--|
| Revision date | 3/16/2017 |
| Revision | 5 |
| Supersedes date | 12/21/2015 |
| SDS No. | 4642 |
| SDS status | Approved. |
| Hazard statements in full | H317 May cause an allergic skin reaction. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H413 May cause long lasting harmful effects to aquatic life. |
| End of SDS | _____ |

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.