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

Product identifier
Product name: Cadmium wire

CAS Number:
7440-43-9

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Paratechs Corporation
1122 Oak Hill Drive
Suite 100
Lexington, Kentucky 40505-3322 USA
Tel: 1-859-317-9213
Fax: 1-859-317-9452
Email: info@paratechs.com
www.paratechs.com

Emergency telephone number:
Dr. Jim Crutchfield: 1-859-885-1781

2 Hazards identification

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008

GHS06 Skull and crossbones
Acute Tox. 2 H330 Fatal if inhaled.

GHS08 Health hazard
Mut. 2 H341 Suspected of causing genetic defects.
Carc. 1B H350 May cause cancer.
Repr. 2 H361 Suspected of damaging fertility or the unborn child.
STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

T+: Very toxic
R26: Very toxic by inhalation.

T; Toxic
Carc. Cat. 2
R45-48/23/25: May cause cancer. Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

Xn: Harmful
R62-68-63: Possible risk of impaired fertility. Possible risk of irreversible effects. Possible risk of harm to the unborn child.

H: Dangerous for the environment
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Mut. Cat. 3, Repr. Cat. 3
Information concerning particular hazards for human and environment: Not applicable

Label elements
Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labelled according to the CLP regulation.
Hazard pictograms

Signal word Danger

Hazard statements
H330 Fatal if inhaled.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P284 Wear respiratory protection.
P281 Use personal protective equipment as required.
P302 Specific treatment is urgent (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard description:

WMDIS classification
D1A - Very toxic material causing immediate and serious toxic effects
D2A - Very toxic material causing other toxic effects

Classification system

HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FIRE</th>
<th>REACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Health (acute effects) = 1
Flammability = 0
Reactivity = 0

Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterisation: Substances
CAS® Description:
7440-43-9 Cadmium
Identification number(s):
EC number: 231-152-8
Index number: 048-002-00-0

4 First aid measures

Description of first aid measures

General information
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact
Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment.
5 Firefighting measures

Extinguishing media
Suitable extinguishing agents: Special powder for metal fires. Do not use water.
For safety reasons: unsuitable extinguishing agents: Water
Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Toxic metal oxide fume
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Environmental precautions:
Do not allow material to be released to the environment without proper governmental permits.
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.

7 Handling and storage

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Open and handle container with care.
Information about protection against explosions and fires: No information known.
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: No information known.
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well-sealed containers.
Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Control parameters
Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>7440-43-9 Cadmium (100.0%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL (USA) 0.005 mg/m³</td>
</tr>
<tr>
<td>Table E-2 for exclusions in 29 CFR 1910.1027</td>
</tr>
<tr>
<td>REL (USA) See Pocket Guide App. A</td>
</tr>
<tr>
<td>TLV (USA) 0.01 mg/m³</td>
</tr>
<tr>
<td>0.002 R; as Cd: BEI</td>
</tr>
<tr>
<td>EL (Canada) 0.01 mg/m³</td>
</tr>
<tr>
<td>as Cd: ACIGH A1, IARC 1</td>
</tr>
</tbody>
</table>

(Cont’d. on page 4)
Safety Data Sheet
According to OSHA and ANSI

Product name: Cadmium wire

<table>
<thead>
<tr>
<th>Country</th>
<th>SV (Canada)</th>
<th>BEI (USA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure</td>
<td>0.01 0.002* mg/m³</td>
<td>5 µg/g creatinine</td>
</tr>
</tbody>
</table>

**Ingredients with biological limit values:**

<table>
<thead>
<tr>
<th>Cadmium (100.0%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-43-9</td>
</tr>
<tr>
<td>BEI (USA)</td>
</tr>
<tr>
<td>5 µg/g creatinine</td>
</tr>
<tr>
<td>Medium: urine</td>
</tr>
<tr>
<td>Time: not critical</td>
</tr>
<tr>
<td>Parameter: Cadmium (background)</td>
</tr>
<tr>
<td>5 µg/L</td>
</tr>
<tr>
<td>Medium: blood</td>
</tr>
<tr>
<td>Time: not critical</td>
</tr>
<tr>
<td>Parameter: Cadmium (background)</td>
</tr>
</tbody>
</table>

**Additional information:** No data

**Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Store protective clothing separately. Maintain an ergonomically appropriate working environment.

**Breathing equipment:**
Use self-contained respiratory protective device in emergency situations.

**Protection of hands:**
Impervious gloves
Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.

9 Physical and chemical properties

**Information on basic physical and chemical properties**

**General information**

**Appearance:** Solid in various forms

<table>
<thead>
<tr>
<th>Form:</th>
<th>Color: Colorless to pale green</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>pH-value:</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Change in condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/Melting range: 321°C (610 °F)</td>
</tr>
<tr>
<td>Boiling point/Boiling range: 765°C (1409 °F)</td>
</tr>
<tr>
<td>Sublimation temperature / start: Not determined</td>
</tr>
<tr>
<td>Flammability (solid, gaseous): Not determined.</td>
</tr>
<tr>
<td>Ignition temperature: Not determined.</td>
</tr>
<tr>
<td>Decomposition temperature: Not determined.</td>
</tr>
<tr>
<td>Auto igniting: Not determined.</td>
</tr>
<tr>
<td>Explosion limits:</td>
</tr>
<tr>
<td>Lower: Not determined</td>
</tr>
<tr>
<td>Upper: Not determined</td>
</tr>
<tr>
<td>Vapor pressure at 180°C (356 °F): 0.00013 hPa</td>
</tr>
<tr>
<td>Density at 20°C (68 °F): 8.65 g/cm³ (72.184 lbs/gal)</td>
</tr>
<tr>
<td>Bulk density at 20°C (68 °F): 2700 kg/m³</td>
</tr>
<tr>
<td>Relative density: Not determined.</td>
</tr>
<tr>
<td>Vapor density: Not applicable.</td>
</tr>
<tr>
<td>Evaporation rate: Not applicable.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water): Not determined.</td>
</tr>
<tr>
<td>Viscosity:</td>
</tr>
<tr>
<td>dynamic: Not applicable.</td>
</tr>
<tr>
<td>kinematic: Not applicable.</td>
</tr>
</tbody>
</table>

**Other information**

No further relevant information available.
10 Stability and reactivity
Reactivity
Chemical stability
Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions No dangerous reactions known
Incompatible materials: No information known.
Hazardous decomposition products: Toxic metal oxide fume

11 Toxicological information
Information on toxicological effects
Acute toxicity:
Primary irritant effect:
on the skin: Powder: irritant effect
on the eye: Powder: irritant effect
Sensitization: No sensitizing effects known.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
Possible risk of impaired fertility.
EPA-1: Probable human carcinogen, limited evidence of carcinogenicity from epidemiologic studies.
ASTM-A: Suspected human carcinogen: Agent is carcinogenic in experimental animals at dose levels, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) considered relevant to worker exposure. Available epidemiologic studies are conflicting or insufficient to confirm an increased risk of cancer in exposed humans.
IARC:1: Carcinogenic to humans: sufficient evidence of carcinogenicity.
IARC:3: Known to be carcinogenic: sufficient evidence from human studies.
Carcinogen as defined by OSHA.
Possible risk of harm to the unborn child.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute and/or other multiple dose toxicity data for components in this product.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogetic and/or neoplastic data for components in this product.

12 Ecological information
Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Behavior in environmental systems:
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Ecotoxicological effects:
Remark: Very toxic for aquatic organisms
Additional ecological information:
General notes:
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Do not allow material to be released to the environment without proper governmental permits.
May cause long lasting harmful effects to aquatic life.
Very toxic for aquatic organisms
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 Consult state, local or national regulations to ensure proper disposal.
Uncleaned packagings:
Recommendation Disposal must be made according to official regulations.
14 Transport information

<table>
<thead>
<tr>
<th>UN-Number</th>
<th>DOT, ADR, ADN, IMDG, IATA</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>DOT, ADR, ADN, IMDG, IATA</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>DOT, ADR, ADN, IMDG, IATA</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Class</td>
<td>DOT, ADR, ADN, IMDG, IATA</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group</td>
<td>DOT, ADR, ADN, IMDG, IATA</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Environmental hazards:</td>
<td>Environmentally hazardous substance, solid</td>
<td></td>
</tr>
<tr>
<td>Marine pollutant:</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>UN “Model Regulation”:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15 Regulatory information

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

National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL). This product contains a chemical known to the state of California to cause cancer and/or reproductive toxicity.
Information about limitation of use:
For use only by technically qualified individuals.
This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.
Other regulations, limitations and prohibitive regulations
Substances of very high concern (SVHC) according to REACH, Article 57
Substance is not listed.
REACH - Pre-registered substances Substance is listed.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS: Health, Safety and Environmental Department.

Contact:
Zachariah C. Holt
Global EHS Manager

Abbreviations and acronyms:
RID: Réglement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)