## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : Cobalt(II) perchlorate hexahydrate

## 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

According to Regulation (EC) No1272/2008
Oxidizing solids (Category 2)
Carcinogenicity (Category 2)

According to European Directive 67/548/EEC as amended.
Contact with combustible material may cause fire. Limited evidence of a carcinogenic effect.

**Label elements**

Pictogram

Signal word Danger

Hazard statement(s)
H272 May intensify fire; oxidiser.
H351 Suspected of causing cancer.

Precautionary statement(s)
P220 Keep/Store away from clothing/ combustible materials.
P281 Use personal protective equipment as required.

Hazard symbol(s)
O Oxidising
Xn Harmful

R-phrase(s)
R8 Contact with combustible material may cause fire.
R40 Limited evidence of a carcinogenic effect.

S-phrase(s)
S17 Keep away from combustible material.
S36/37 Wear suitable protective clothing and gloves.

**Other hazards** - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Cobaltous perchloratehexahydrate

Formula : ClCoO8 · 6H2O
Molecular Weight : 365,93 g/mol

| CAS-No. | EC-No. | | Classification | Concentration |
|---|---|---|---|---|
| **Cobalt(II) perchlorate hexahydrate** | | | | |
| 13478-33-6 | 236-653-5 | - | Ox. Sol. 2; Carc. 2; H272, H351<br>O, Xn; R 8 - R40 | - |

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

## 4. FIRST AID MEASURES

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**
If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

**In case of skin contact**
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.

## 5. FIRE-FIGHTING MEASURES

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

**Special protective equipment for fire-fighters**
Wear self contained breathing apparatus for fire fighting if necessary.

**Further information**
Use water spray to cool unopened containers.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**
Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental precautions**
Do not let product enter drains.

**Methods and materials for containment and cleaning up**
Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**
Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from combustible material.

**Conditions for safe storage**
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Personal protective equipment**

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Handle with gloves.

**Eye protection**
Safety glasses with side-shields conforming to EN166

**Skin and body protection**
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**

| | |
|---|---|
| Form | Crystals with lumps |

**Safety data**

| | |
|---|---|
| pH | no data available |
| Melting point | no data available |
| Boiling point | no data available |
| Flash point | not applicable |
| Ignition temperature | no data available |
| Lower explosion limit | no data available |
| Upper explosion limit | no data available |
| Water solubility | no data available |

## 10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.

**Conditions to avoid**
no data available

**Materials to avoid**
Organic materials, Powdered metals

**Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Cobalt/cobalt oxides

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**
LD50 Intraperitoneal - mouse - 160 mg/kg

**Skin corrosion/irritation**
no data available

**Serious eye damage/eye irritation**
no data available

**Respiratory or skin sensitization**
no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

Limited evidence of carcinogenicity in animal studies

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Cobalt(II) perchlorate hexahydrate)

**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

**Potential health effects**

| | |
|---|---|
| **Inhalation** | May be harmful if inhaled. May cause respiratory tract irritation. |
| **Ingestion** | May be harmful if swallowed. |
| **Skin** | May be harmful if absorbed through skin. May cause skin irritation. |
| **Eyes** | May cause eye irritation. |

**Additional Information**
RTECS: GG2975000

## 12. ECOLOGICAL INFORMATION

**Toxicity**

no data available

**Persistence and degradability**
no data available

**Bioaccumulative potential**
no data available

**Mobility in soil**
no data available

**PBT and vPvB assessment**
no data available

**Other adverse effects**
no data available

## 13. DISPOSAL CONSIDERATIONS

**Product**
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**
Dispose of as unused product.

## 14. TRANSPORT INFORMATION

**ADR/RID**
UN-Number: 1481 Class: 5.1 Packing group: II
Proper shipping name: PERCHLORATES, INORGANIC, N.O.S. (Cobalt(II) perchlorate hexahydrate)

**IMDG**
UN-Number: 1481 Class: 5.1 Packing group: II EMS-No: F-H, S-Q
Proper shipping name: PERCHLORATES, INORGANIC, N.O.S.
Marine pollutant: No

**IATA**
UN-Number: 1481 Class: 5.1 Packing group: II
Proper shipping name: Perchlorates, inorganic, n.o.s.

## 15. REGULATORY INFORMATION

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

## 16. OTHER INFORMATION

**Text of H-code(s) and R-phrase(s) mentioned in Section 3**

| | |
|---|---|
| Carc. | Carcinogenicity |
| H272 | May intensify fire; oxidiser. |
| H351 | Suspected of causing cancer. |
| Ox. Sol. | Oxidizing solids |
| O | Oxidising |
| Xn | Harmful |
| R8 | Contact with combustible material may cause fire. |
| R40 | Limited evidence of a carcinogenic effect. |

**Further information**

For R&D use only. Not for drug, household or other uses.
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