

# SAFETY DATA SHEET



EM-8120

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

### 1.1 Product identifier

**Product name** : EM-8120  
see Section 16 for Synonyms

**Product description** : Metal Catalyst

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

**Intended Use** : catalyst

**Identified uses**

Not applicable.

**Uses advised against**

Not applicable.

**Uses advised against** : This product is not recommended for any industrial, professional or consumer use other than the Identified Uses above.

### 1.3 Details of the supplier of the safety data sheet

**Supplier** : ExxonMobil Petroleum & Chemical BV  
POLDERDIJKWEG  
Antwerpen B-2030 Belgium

**Supplier General Contact** : + 32 2 239 3111

**e-mail address of person responsible for this SDS** : SDS-CC@exxonmobil.com

**SDS Internet Address** : [www.sds.exxonmobil.com](http://www.sds.exxonmobil.com)

**National contact**

ExxonMobil Chemical Ltd.  
MAILPOINT 14  
MARSH LANE  
FAWLEY, SOUTHAMPTON  
SO45 1TX HAMPSHIRE  
Great Britain  
+44 (0)23-8089-3822

### 1.4 Emergency telephone number

**National advisory body/** : (UK) 111  
**Poison Centre**

**24 Hour Emergency** : +44 20 3807 3798 / +1-703-527-3887 (CHEMTREC)  
**Telephone**

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

**Classification according to UK CLP/GHS**

## SECTION 2: Hazards identification

Acute Tox. 4, H302  
 Acute Tox. 4, H332  
 Eye Irrit. 2, H319  
 Resp. Sens. 1, H334  
 Skin Sens. 1, H317  
 Muta. 2, H341  
 Carc. 1B, H350  
 Repr. 1B, H360FD  
 Aquatic Acute 1, H400  
 Aquatic Chronic 2, H411

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

#### Hazard pictograms

:



#### Signal word

:

Danger

#### Hazard statements

:

H302 + H332 - Harmful if swallowed or if inhaled.  
 H317 - May cause an allergic skin reaction.  
 H319 - Causes serious eye irritation.  
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H341 - Suspected of causing genetic defects.  
 H350 - May cause cancer.  
 H360FD - May damage fertility. May damage the unborn child.  
 H410 - Very toxic to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

:

P201 - Obtain special instructions before use.  
 P202 - Do not handle until all safety precautions have been read and understood.  
 P261 - Avoid breathing dust.  
 P264 - Wash thoroughly after handling.  
 P270 - Do not eat, drink or smoke when using this product.  
 P271 - Use only outdoors or in a well-ventilated area.  
 P272 - Contaminated work clothing should not be allowed out of the workplace.  
 P273 - Avoid release to the environment.  
 P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection.  
 P284 - Wear respiratory protection.

#### Response

:

P301 + P330, P312 - IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell.  
 P302 + P352 - IF ON SKIN: Wash with plenty of water.  
 P304 + P312, P340 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell. 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 or attention.  
 P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention.  
 P337 + P313 - If eye irritation persists: Get medical advice/attention.  
 P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.  
 P362 + P364 - Take off contaminated clothing and wash it before reuse.  
 P391 - Collect spillage.

#### Storage

:

P405 - Store locked up.

#### Disposal

:

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

#### Hazardous ingredients

:

cobalt oxide and cobalt

EM-8120

SECTION 2: Hazards identification

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : None.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : May form explosible dust-air mixture if small particles are generated during further processing, handling, or by other means.

Nota : This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

| Product/ingredient name | Identifiers                     | %         | Classification   | Type    |
|-------------------------|---------------------------------|-----------|--|---------|
| molybdenum trioxide     | EC: 215-204-7<br>CAS: 1313-27-5 | ≥10 - <20 | Eye Irrit. 2, H319<br>Carc. 2, H351<br>STOT SE 3, H335   | [1] [2] |
| cobalt oxide            | EC: 215-154-6<br>CAS: 1307-96-6 | ≤6.4      | Acute Tox. 3, H301<br>Acute Tox. 2, H330<br>Resp. Sens. 1B, H334<br>Skin Sens. 1B, H317<br>Carc. 1B, H350<br>Repr. 1B, H360FD<br>Aquatic Acute 1, H400 (M=10)<br>Aquatic Chronic 1, H410 (M=1)                               | [1] [2] |
| cobalt                  | EC: 231-158-0<br>CAS: 7440-48-4 | ≤10       | Acute Tox. 4, H302<br>Resp. Sens. 1, H334<br>Skin Sens. 1, H317<br>Muta. 2, H341<br>Carc. 1B, H350<br>Repr. 1B, H360F<br>Aquatic Chronic 4, H413<br><br>See Section 16 for the full text of the H statements declared above. | [1] [2] |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

EM-8120

**SECTION 3: Composition/information on ingredients**Type

[1] Substance classified with a physical, health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

**SECTION 4: First aid measures****4.1 Description of first aid measures**

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In the event of any complaints or symptoms, avoid further exposure.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Continue to rinse for at least 10 minutes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Get medical attention. Wash with plenty of soap and water. In the event of any complaints or symptoms, avoid further exposure.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**4.2 Most important symptoms and effects, both acute and delayed**Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
wheezing and breathing difficulties  
asthma
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : No specific data.

**4.3 Indication of any immediate medical attention and special treatment needed**

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

EM-8120

**SECTION 4: First aid measures****Specific treatments** : No specific treatment.

See toxicological information (Section 11)

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.**Unsuitable extinguishing media** : Do not use water jet.**5.2 Special hazards arising from the substance or mixture****Specific hazards arising from the chemical** : Adsorption of water will generate heat and possibly steam; closed containers may get very hot and build up pressure. If contact with water occurs, large quantities of heat and steam may be generated. Avoid contact with eyes. Avoid contact with skin. Avoid conditions which create dust. Avoid inhalation of dust. This material is very toxic to aquatic life. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.**Hazardous combustion products** : Metal Oxides**5.3 Advice for firefighters****Special protective actions for fire-fighters** : Use standard firefighting procedures and consider the hazards of other involved materials. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Assure an extended cooling down period to prevent re-ignition. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. No action shall be taken involving any personal risk or without suitable training.**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.**SECTION 6: Accidental release measures****NOTIFICATION PROCEDURES**

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

**6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".**6.2 Environmental precautions**

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

**6.3 Methods and material for containment and cleaning up****Small spill** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

## SECTION 6: Accidental release measures

- Large spill** : Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Confine the spill immediately with booms. Skim from surface. Warn other shipping. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Static Accumulator** : This material is a static accumulator.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### Seveso Directive - Reporting thresholds

#### Danger criteria

| Category | Notification and MAPP threshold | Safety report threshold |
|----------|---------------------------------|-------------------------|
| E1       | 100 tonne                       | 200 tonne               |

### 7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.



**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational exposure limits**

| Product/ingredient name     | Exposure limit values   |
|-----------------------------|---|
| aluminum oxide, non fibrous | <b>EH40/2005 WELs (United Kingdom (UK), 1/2020) [aluminium oxides]</b><br>TWA 8 hours: 4 mg/m <sup>3</sup> . Form: respirable dust.<br>TWA 8 hours: 10 mg/m <sup>3</sup> . Form: inhalable dust.  |
| molybdenum trioxide         | <b>ACGIH TLV (United States, 1/2024) [Aluminum, metal and insoluble compounds]</b><br>TWA 8 hours: 1 mg/m <sup>3</sup> . Form: Respirable fraction.   |
| molybdenum                  | <b>EH40/2005 WELs (United Kingdom (UK), 1/2020) [molybdenum insoluble compounds]</b><br>STEL 15 minutes: 20 mg/m <sup>3</sup> (as Mo).<br>TWA 8 hours: 10 mg/m <sup>3</sup> (as Mo).<br><b>ACGIH TLV (United States, 1/2024) [Molybdenum, Metal and insoluble compounds]</b><br>TWA 8 hours: 10 mg/m <sup>3</sup> (as Mo). Form: Inhalable fraction.<br>TWA 8 hours: 3 mg/m <sup>3</sup> (as Mo). Form: Respirable fraction.  |
| cobalt oxide                | <b>ACGIH TLV (United States, 1/2024) [Molybdenum, Metal and insoluble compounds]</b><br>TWA 8 hours: 10 mg/m <sup>3</sup> (as Mo). Form: Inhalable fraction.<br>TWA 8 hours: 3 mg/m <sup>3</sup> (as Mo). Form: Respirable fraction.  |
| cobalt                      | <b>EH40/2005 WELs (United Kingdom (UK), 1/2020) [cobalt and cobalt compounds]</b> Inhalation sensitiser.<br>TWA 8 hours: 0.1 mg/m <sup>3</sup> (as Co).<br><b>ACGIH TLV (United States, 1/2024) [cobalt and inorganic compounds]</b> Skin sensitiser , Inhalation sensitiser.<br>TWA 8 hours: 0.02 mg/m <sup>3</sup> (as Co).<br><b>EH40/2005 WELs (United Kingdom (UK), 1/2020) [cobalt and cobalt compounds]</b> Inhalation sensitiser.<br>TWA 8 hours: 0.1 mg/m <sup>3</sup> (as Co).<br><b>ACGIH TLV (United States, 1/2024) [cobalt and inorganic compounds]</b> Skin sensitiser , Inhalation sensitiser.<br>TWA 8 hours: 0.02 mg/m <sup>3</sup> (as Co).<br><b>ACGIH TLV (United States, 1/2024) [Hard metals containing Cobalt and Tungsten carbide]</b> Inhalation sensitiser.<br>TWA 8 hours: 0.005 mg/m <sup>3</sup> . Form: Thoracic fraction. |
| aluminum phosphate          | <b>ACGIH TLV (United States, 1/2024) [Aluminum, metal and insoluble compounds]</b><br>TWA 8 hours: 1 mg/m <sup>3</sup> . Form: Respirable fraction.   |
| silica                      | <b>EH40/2005 WELs (United Kingdom (UK), 1/2020) [silica, amorphous]</b><br>TWA 8 hours: 6 mg/m <sup>3</sup> . Form: inhalable dust.<br>TWA 8 hours: 2.4 mg/m <sup>3</sup> . Form: respirable dust.  |

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**DNELs/DMELs**

No DNELs/DMELs available.

**PNECs**

No PNECs available

## SECTION 8: Exposure controls/personal protection

### 8.2 Exposure controls

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : 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.

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. If operating conditions cause high dust concentrations to be produced, use dust goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): Nitrile, minimum 0.38 mm thickness or comparable protective barrier material  
CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.  
European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.
- Environmental exposure controls** : 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.



## Section 9. Physical and chemical properties and safety characteristics

**Note:** Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

#### Appearance

|  |                               |
|--|-------------------------------|
| Physical state   | : Solid. [pellet]             |
| Colour   | : Blue                        |
| Odour  | : Odourless                   |
| Odour threshold  | : Not available.              |
| pH   | : Not applicable.             |
| Melting point/freezing point                             | : >800°C (>1472°F)            |
| Boiling point or initial boiling point and boiling range | : Not applicable.             |
| Flash point  | : Closed cup: Not applicable. |
| Evaporation rate   | : Not applicable.             |
| Flammability   | : Ignitable                   |
| Lower and upper explosive (flammable) limits             | : Not applicable.             |
| Vapour pressure  | : Not applicable.             |
| Relative vapour density                                  | : Not applicable.             |
| Relative density   | : 1                           |
| Solubility in water                                      | : Negligible                  |
| Partition coefficient: n-octanol/ water                  | : Not applicable.             |
| Auto-ignition temperature                                | : Not applicable.             |
| Decomposition temperature                                | : Not available.              |
| Viscosity  | : Not applicable.             |
| <b>Particle characteristics</b>                          |                               |
| Median particle size                                     | : Not available.              |

## SECTION 10: Stability and reactivity

|  |  |
|--|--|
| <b>10.1 Reactivity</b>                         | : No specific test data related to reactivity available for this product or its ingredients.           |
| <b>10.2 Chemical stability</b>                 | : The product is stable.   |
| <b>10.3 Possibility of hazardous reactions</b> | : Under normal conditions of storage and use, hazardous reactions will not occur.                      |
| <b>10.4 Conditions to avoid</b>                | : High dust concentrations., High energy sources of ignition., Moisture.                               |
| <b>10.5 Incompatible materials</b>             | : strong acids, sulphur containing materials   |
| <b>10.6 Hazardous decomposition products</b>   | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

EM-8120

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

| Product/ingredient name | Test                            | Species | Result     | Duration |
|-------------------------|---------------------------------|---------|------------|----------|
| molybdenum trioxide     | LD50 Oral                       | Rat     | 2689 mg/kg | -        |
| cobalt oxide            | LC50 Inhalation Dusts and mists | Rat     | 0.06 mg/l  | 4 hours  |
| cobalt                  | LD50 Oral                       | Rat     | 202 mg/kg  | -        |
|                         | LD50 Oral                       | Rat     | 550 mg/kg  | -        |

**Conclusion/Summary**

- Inhalation** : Moderately toxic. No end point data for material. Based on assessment of the components.
- Dermal** : Minimally Toxic. No end point data for material. Based on assessment of the components.
- Oral** : Slightly toxic. No end point data for material. Based on assessment of the components.

**Acute toxicity estimates**

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapours) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|-------------------------|--------------|----------------|--------------------------|-----------------------------|-------------------------------------|
| EM-8120                 | 1847.1       | N/A            | N/A                      | N/A                         | 1.1                                 |
| cobalt oxide            | 100          | N/A            | N/A                      | N/A                         | 0.05                                |
| cobalt                  | 500          | N/A            | N/A                      | N/A                         | N/A                                 |

**Irritation/Corrosion****Conclusion/Summary**

- Skin** : Negligible irritation to skin at ambient temperatures. No end point data for material. Based on assessment of the components.
- Eyes** : Irritating and will injure eye tissue. No end point data for material. Based on assessment of the components.
- Respiratory** : Negligible hazard at ambient/normal handling temperatures. No end point data for material.

**Respiratory or skin sensitization****Conclusion/Summary**

- Skin** : May cause allergic skin reaction. No end point data for material. Based on assessment of the components.
- Respiratory** : No end point data for material. Based on assessment of the components. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Mutagenicity**

- Conclusion/Summary** : May cause genetic defects. No end point data for material. Based on assessment of the components.

**Carcinogenicity**

- Conclusion/Summary** : May cause cancer. No end point data for material. Based on assessment of the components.

**Reproductive toxicity**

- Conclusion/Summary** : May damage fertility. May damage the unborn child. No end point data for material. Based on assessment of the components.

**Specific target organ toxicity (single exposure)**

Not available.

- Conclusion/Summary** : Not expected to cause organ damage from a single exposure. No end point data for material.

**Specific target organ toxicity (repeated exposure)**

EM-8120

Not applicable.

-

EM-8120

## SECTION 11: Toxicological information

**Conclusion/Summary** : Not expected to cause organ damage from prolonged or repeated exposure. No end point data for material. Based on assessment of the components.

### Aspiration hazard

Not available.

**Conclusion/Summary** : Not expected to be an aspiration hazard. Based on physico-chemical properties of the material. No end point data for material.

**Information on likely routes of exposure** : Not available.

### Other information

**Contains** : Cobalt compounds: Some compounds caused tumours and reproductive effects in laboratory animals. May cause dermatitis and skin sensitisation. Inhalation of dusts can result in respiratory irritation, pneumoconiosis and asthma. AMORPHOUS SILICA : Most amorphous silicas (e.g., diatomaceous earth and precipitated silica) have relatively little adverse effects, although high aerosol concentrations may cause irritation of respiratory tract or, with prolonged exposure, possible benign pneumoconiosis. Aerosols of fused amorphous silica are thought to have greater potential to cause pulmonary fibrosis. Molybdenum: High oral dosages have produced weight loss, anorexia, liver and kidney damage in animal studies. Few signs and symptoms in humans have been recorded during occupational exposure.

## Section 12. Ecological information

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

### **12.1 Toxicity**

#### Conclusion/Summary

**Acute toxicity** : Very toxic to aquatic life.

**Chronic toxicity** : Toxic to aquatic life with long lasting effects.

### **12.2 Persistence and degradability**

**Biodegradability** : Material -- Expected to be persistent.

### **12.3 Bioaccumulative potential**

Not determined.

### **12.4 Mobility in soil**

Not determined.

### **12.5 Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

### **12.6 Other adverse effects**

**Other adverse effects** : No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### **13.1 Waste treatment methods**

#### Product

**SECTION 13: Disposal considerations**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Yes.

**Waste catalogue**

| Waste code | Waste designation                                      |
|------------|--|
| 16 08 07*  | spent catalysts contaminated with hazardous substances |

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).








**Packaging**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

**Special precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

**SECTION 14: Transport information**

|  | ADR/RID  | ADN  | IMDG  | IATA   |
|--|--|--|---|--|
| <b>14.1 UN number</b>                  | UN3288   | UN3288   | UN3288  | UN3288   |
| <b>14.2 UN proper shipping name</b>    | TOXIC SOLID, INORGANIC, N.O.S.   | TOXIC SOLID, INORGANIC, N.O.S.   | TOXIC SOLID, INORGANIC, N.O.S.  | Toxic solid, inorganic, n.o.s.   |
| <b>14.3 Transport hazard class(es)</b> | 6.1<br>  | 6.1<br>  | 6.1<br>  | 6.1<br> |
| <b>14.4 Packing group</b>              | I  | I  | I   | I  |
| <b>14.5 Environmental hazards</b>      | Yes.   | Yes.   | Yes.  | Yes. The environmentally hazardous substance mark is not required.                           |

**Additional information**

EM-8120

**SECTION 14: Transport information**

- ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
Hazard identification number 66  
Limited quantity 0  
Special provisions 274  
Tunnel code (C/E)
- ADN** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
Special provisions 274, 802
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
Emergency schedules F-A, S-A  
Special provisions 274
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.  
Quantity limitation Passenger and Cargo Aircraft: 5 kg. Packaging instructions: 666. Cargo Aircraft Only: 50 kg. Packaging instructions: 673. Limited Quantities - Passenger Aircraft: Forbidden. Packaging instructions: Forbidden.  
Special provisions A3, A5

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to IMO instruments** : Not applicable.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****UK (GB)/REACH****Annex XIV - List of substances subject to authorisation****Annex XIV**

None of the components are listed.

**Substances of very high concern**

None of the components are listed.

**Ozone depleting substances**

Not listed.

**Prior Informed Consent (PIC)**

Not listed.

**Persistent Organic Pollutants**

Not listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : None.

**Seveso Directive**

This product is controlled under the Seveso Directive.

**Danger criteria**

EM-8120

**SECTION 15: Regulatory information****Category**

E1

**National regulations**

| Product/ingredient name     | List name      | Name on list                                       | Classification | Notes |
|-----------------------------|----------------|--|----------------|-------|
| aluminum oxide, non fibrous | ACGIH TLV      | Aluminum, metal and insoluble compounds            | A4             | -     |
| cobalt oxide                | EH40/2005 WELs | cobalt and cobalt compounds                        | Carc           | -     |
|                             | ACGIH TLV      | cobalt and inorganic compounds                     | A3             |       |
| cobalt                      | EH40/2005 WELs | cobalt and cobalt compounds                        | Carc           | -     |
|                             | ACGIH TLV      | cobalt and inorganic compounds                     | A3             |       |
|                             | ACGIH TLV      | Hard metals containing Cobalt and Tungsten carbide | A2             |       |
| aluminum phosphate          | ACGIH TLV      | Aluminum, metal and insoluble compounds            | A4             | -     |

**EU regulations**

**Industrial emissions (integrated pollution prevention and control) - Air** : Listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Listed

**Inventory list**

|   |  |
|---|--|
| <b>Australia inventory (AIC)</b>                          | : All components are listed or exempted. |
| <b>Canada inventory (DSL-NDSL)</b>                        | : All components are listed or exempted. |
| <b>China inventory (IECSC)</b>                            | : All components are listed or exempted. |
| <b>Japan inventory (CSCL)</b>                             | : Not determined.                        |
| <b>Japan inventory (Industrial Safety and Health Act)</b> | : Not determined.                        |
| <b>New Zealand Inventory of Chemicals (NZIoC)</b>         | : All components are listed or exempted. |
| <b>Philippines inventory (PICCS)</b>                      | : All components are listed or exempted. |
| <b>Korea inventory (KECI)</b>                             | : All components are listed or exempted. |
| <b>Taiwan Chemical Substances Inventory (TCSI)</b>        | : All components are listed or exempted. |
| <b>United States inventory (TSCA 8b)</b>                  | : All components are active or exempted. |

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments are still required.

**SECTION 16: Other information**

Indicates information that has changed from previously issued version.



EM-8120

**SECTION 16: Other information****Abbreviations and acronyms**

: ATE = Acute Toxicity Estimate  
 GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments  
 DMEL = Derived Minimal Effect Level  
 DNEL = Derived No Effect Level  
 EUH statement = GB CLP-specific Hazard statement  
 N/A = Not available  
 PBT = Persistent, Bioaccumulative and Toxic  
 PNEC = Predicted No Effect Concentration  
 RRN = REACH Registration Number  
 SGG = Segregation Group  
 vPvB = Very Persistent and Very Bioaccumulative

**Procedure used to derive the classification**

| <b>Classification</b>   | <b>Justification</b> |
|-------------------------|----------------------|
| Acute Tox. 4, H302      | Calculation method   |
| Acute Tox. 4, H332      | Calculation method   |
| Eye Irrit. 2, H319      | Calculation method   |
| Resp. Sens. 1, H334     | Calculation method   |
| Skin Sens. 1, H317      | Calculation method   |
| Muta. 2, H341           | Calculation method   |
| Carc. 1B, H350          | Calculation method   |
| Repr. 1B, H360FD        | Calculation method   |
| Aquatic Acute 1, H400   | Calculation method   |
| Aquatic Chronic 2, H411 | Calculation method   |

**Full text of abbreviated H statements**

|        |  |
|--------|--|
| H301   | Toxic if swallowed.  |
| H302   | Harmful if swallowed.  |
| H317   | May cause an allergic skin reaction.                                       |
| H319   | Causes serious eye irritation.   |
| H330   | Fatal if inhaled.  |
| H332   | Harmful if inhaled.  |
| H334   | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335   | May cause respiratory irritation.  |
| H341   | Suspected of causing genetic defects.                                      |
| H350   | May cause cancer.  |
| H351   | Suspected of causing cancer.   |
| H360F  | May damage fertility.  |
| H360FD | May damage fertility. May damage the unborn child.                         |
| H400   | Very toxic to aquatic life.  |
| H410   | Very toxic to aquatic life with long lasting effects.                      |
| H411   | Toxic to aquatic life with long lasting effects.                           |
| H413   | May cause long lasting harmful effects to aquatic life.                    |

**Full text of classifications**

|                   |   |
|-------------------|---|
| Acute Tox. 2      | ACUTE TOXICITY - Category 2                     |
| Acute Tox. 3      | ACUTE TOXICITY - Category 3                     |
| Acute Tox. 4      | ACUTE TOXICITY - Category 4                     |
| Aquatic Acute 1   | SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1  |
| Aquatic Chronic 1 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 2 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 |
| Aquatic Chronic 4 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4 |
| Carc. 1B          | CARCINOGENICITY - Category 1B                   |
| Carc. 2           | CARCINOGENICITY - Category 2                    |
| Eye Irrit. 2      | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2  |
| Muta. 2           | GERM CELL MUTAGENICITY - Category 2             |
| Repr. 1B          | REPRODUCTIVE TOXICITY - Category 1B             |
| Resp. Sens. 1     | RESPIRATORY SENSITISATION - Category 1          |
| Resp. Sens. 1B    | RESPIRATORY SENSITISATION - Category 1B         |
| Skin Sens. 1      | SKIN SENSITISATION - Category 1                 |
| Skin Sens. 1B     | SKIN SENSITISATION - Category 1B                |

EM-8120

SECTION 16: Other information

STOT SE 3                      SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

Date of issue/ Date of revision : 29 January 2025

Date of previous issue : 28 January 2025

Version : 0.03

THIS SDS COVERS THE FOLLOWING MATERIALS :

EM-8120-1.3Q

Product code : 1154933

Notice to reader

"The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, ""ExxonMobil"" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest."

EM-8120