1. Substance/preparation and company identification

**LIBREL® CO**

Use: Micronutrient

**Company:**
BASF Australia Limited (ABN 62 008 437 867)
Level 12, 28 Freshwater Place Southbank
Victoria 3006, AUSTRALIA
Telephone: +61 3 8855-6600
Telefax number: +61 3 8855-6511

**Emergency information:**
BASF Emergency Advice Number: 1800 803 440 (24h) [within Australia]
BASF Emergency Advice Number: + 61 3 8855 6666 [outside Australia]

2. Hazard identification

HAZARDOUS SUBSTANCE, NON-DANGEROUS GOOD
Limited evidence of a carcinogenic effect.

Wear suitable protective clothing and gloves.

3. Composition/information on ingredients

**Chemical nature**

Cobaltate(2-),
[[N,N'-1,2-ethanediylbis[N-[(carboxy-.kappa.O)methyl]glycinato-.kappa.N,.kappa.O]](4-)]-, sodium (1:2), (OC-6-21)-
4. First-Aid Measures

General advice:
Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:
Wash thoroughly with soap and water.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:
Rinse mouth immediately and then drink plenty of water, induce vomiting, seek medical attention.

Note to physician:
Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Suitable extinguishing media:
dry powder, foam, carbon dioxide, water spray

Unsuitable extinguishing media for safety reasons:
water jet

Specific hazards:
carbon oxides

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. Accidental Release Measures

Personal precautions:
Avoid dust formation. Use personal protective clothing. Information regarding personal protective measures see, chapter 8.
Environmental precautions:
Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Methods for cleaning up or taking up:
For small amounts: Pick up with suitable appliance and dispose of.
For large amounts: Contain with dust binding material and dispose of.
Avoid raising dust.

7. Handling and Storage

Handling
Breathing must be protected when large quantities are decanted without local exhaust ventilation.

Protection against fire and explosion:
Avoid dust formation. Take precautionary measures against static discharges.

Dust explosion class: none.

Storage
Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

8. Exposure controls and personal protection

Components with workplace control parameters
no exposure standard allocated

Personal protective equipment
Respiratory protection:
Suitable respiratory protection for lower concentrations or short-term effect: Particle filter with high efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P3 or FFP3).

Hand protection:
Chemical resistant protective gloves
Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):
e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other
Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.
Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Safety glasses with side-shields.
Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:
Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended.

### 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>free flowing fine granules</td>
</tr>
<tr>
<td>Colour</td>
<td>pink to red</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>pH value</td>
<td>5 - 9</td>
</tr>
<tr>
<td>Melting point</td>
<td>The substance / product decomposes therefore not determined.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td>does not ignite</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>not applicable</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>not applicable</td>
</tr>
<tr>
<td>Self ignition</td>
<td>not self-igniting</td>
</tr>
<tr>
<td>Explosion hazard</td>
<td>not explosive</td>
</tr>
<tr>
<td>Fire promoting properties</td>
<td>not fire-propagating</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 0.000001 hPa (25 °C) contains water</td>
</tr>
<tr>
<td>Bulk density</td>
<td>700 kg/m³</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>approx. 300 g/l (20 °C)</td>
</tr>
<tr>
<td>Partitioning coefficient n-octanol/water (log Pow)</td>
<td>-3.86 (calculated)</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>not applicable</td>
</tr>
</tbody>
</table>
10. Stability and Reactivity

Conditions to avoid:
Avoid dust formation. Avoid extreme temperatures.

Thermal decomposition:  > 150 °C

Substances to avoid:
strong bases, oxidizing agents

Corrosion to metals:  Corrosive effects to metal are not anticipated.

Hazardous reactions:
The product is not a dust explosion risk as supplied; however the build-up of fine dust can lead to a risk of dust explosions.

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information

Acute toxicity

Assessment of acute toxicity:
Virtually nontoxic after a single ingestion.

LD50 rat (oral):  > 2,000 mg/kg

Irritation

Assessment of irritating effects:
Not irritating to eyes and skin.

Primary skin irritation: non-irritant

Primary irritations of the mucous membrane: non-irritant

Sensitization

Assessment of sensitization:
No data available concerning sensitizing effects.

Repeated dose toxicity

Assessment of repeated dose toxicity:
No data available concerning repeated dose toxicity.

Genetic toxicity

Assessment of mutagenicity:
No data available concerning mutagenic effects.
Carcinogenicity

Assessment of carcinogenicity:
Limited evidence of a carcinogenic effect.

Other relevant toxicity information

The product has not been tested. The statements on toxicology have been derived from products of a similar structure and composition.

12. Ecological Information

Ecotoxicity

Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.

Toxicity to fish:
LC50 (96 h) > 100 mg/l, Lepomis macrochirus

Mobility

Assessment transport between environmental compartments:
The substance will not evaporate into the atmosphere from the water surface.

Persistence and degradability

Assessment biodegradation and elimination (H2O):
Poorly biodegradable.

Bioaccumulation potential

Bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control.

The product has not been tested. The statements on ecotoxicology have been derived from products of a similar structure and composition.

13. Disposal Considerations

Must be disposed of or incinerated in accordance with local regulations.

Contaminated packaging:
Uncontaminated packaging can be re-used.
Packs that cannot be cleaned should be disposed of in the same manner as the contents.
14. Transport Information

**Domestic transport:**
Not classified as a dangerous good under transport regulations

**Sea transport**
IMDG
Not classified as a dangerous good under transport regulations

**Air transport**
IATA/ICAO
Not classified as a dangerous good under transport regulations

15. Regulatory Information

**Poisons Schedule:** Not scheduled

**Regulations of the European union (Labelling)**

EC-Number: 239-198-0
as in Annex VI of Directive 67/548/EEC:

Hazard symbol(s)
Xn Harmful.

R-phrase(s)
R40 Limited evidence of a carcinogenic effect.

S-phrase(s)
S36/37 Wear suitable protective clothing and gloves.

**Self classification**

**Other regulations**

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

**Registration status:**

AICS, AU released / listed
16. Other Information

Due to the merger of CIBA and BASF Group all Material Safety Data Sheets have been reassessed on the basis of consolidated information. This may have resulted in changes of the Material Safety Data Sheets. In case you have questions concerning such changes please contact us at the address mentioned in Section I.

Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.