



German metal Surface treatment Chemicals Co.
Research and Development Department
Water treatment Division

MATERIAL SAFETY DATA SHEET

CMC 3140

MANUFACTURER:

German metal surface treatment (SUGEST)

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1. Product and Company Identification

NAME CMC 3140
USE used as corrosion inhibitor
LABEL CMC 3140
Company German metal surface treatment chemicals co.

2. Product Description

CMC 3140 is a high performance nitrite - borate based corrosion inhibitor containing an additional organic inhibitor to protect steel, copper and other non-ferrous metals.

3. Hazards Identification

Emergency Overview

 Cause eye and skin irritation/or burn. Avoid contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection.

Contains sodium nitrite. May be harmful or fatal if swallowed. Substances in the product can lead to the formation of methemoglobin. Unborn children are particularly sensitive to methemoglobinemia. May cause skin and eye irritation.

Do not get in eyes, on skin, on clothing. Do not take internally. Keep container tightly closed. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. If swallowed, seek medical advice immediately and show this container or label. Wear suitable protective clothing, gloves and eye/face protection.

Not flammable or combustible. If product is allowed to dry, the sodium nitrite is an oxidizing agent and can initiate the combustion of other materials. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions..

Potential Health Effects

HMS: Health 3 Flammability 0 Reactivity 0 Personal Protection: E
 4 = extreme 3 = high 2 = moderate 1 = slight

- **Inhalation:** This product is not expected to present an inhalation hazard unless mists or vapors are generated. Exposure to vapors or mists may cause throat irritation, headache, nausea, vomiting, dizziness, drowsiness, central nervous system depression, pulmonary edema, involuntary eye movement, and/or coma.
- **Skin contact:** Contact with this product may cause skin irritation. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in the absorption of potentially lethal amounts of the product component
- **Eye contact:** Contact with this product may cause eye irritation.



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- **Ingestion:** Harmful if swallowed, Early to moderate CNS depression may be evidenced by giddiness, headache, dizziness, and nausea. Kidney damage may be evidenced by changes in urine output, urine appearance, or edema (swelling from fluid retention).

4. Chemical Composition

Ingredient	CAS No	Percent
Sodium Nitrite	7632 – 00 - 0	20 - 60
Sodium tetraborate	1303 – 96 - 4	1 - 10
Sodium Hydroxide	1310 - 73 - 2	1 - 10
Water	7732 – 18 - 5	To 100

5. Physical and Chemical Properties

Appearance	Clear Colourless to pale yellowish liquid
Odour	Characteristic
pH at 25 oC	11– 12
Density at 25 oC	1.32 ±0.06 gm/cm ³

6. First Aid Measures

Inhalation:

Remove to fresh air. If breathing is difficult, have a trained medical person administer oxygen. Seek medical aid.

Skin contact:

Remove contaminated clothing and footwear. For skin contact, flush with large amounts of water. Irritation persists seek immediate medical attention.

Eye contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and if irritation persists, seek immediate medical attention.

Ingestion:

Seek medical advice. DO NOT induce vomiting unless directed to do so by medical personnel. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

7. Fire Fighting Measures

Fire: Non flammable



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Fire Extinguishing Media: Use dry chemical, foam, or carbon dioxide. Water or foam may cause frothing. Water spray may be used to extinguish surrounding fire and cool exposed containers. Water spray will also reduce fume and irritant gases.

Hazardous combustion products: In event of fire created carbon oxides may be formed.

8. Accidental Release Measures

Use personal protection recommended in Section 10, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:

Prevent runoff from entering drains, sewers or waterways.

Clean-up methods:

Should be prevented from entering drains, eliminate all ignition sources. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and reclaim or dispose in sealed containers in licensed waste. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

9. Handling and Storage

Handling:

Before use carefully read the product label. Use of safe work practices are recommended to avoid eyes or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated area (eg. If container is damaged).

Storage:

Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Removed from oxidizing agents, acids and foodstuffs. Ensure containers are adequately labeled and protected from physical damage when not in use.

Store separated from: Cyanides. Reducing Agents. Avoid contact with strong oxidizers. Strong acids

Storage Conditions: Store in a cool, dry and good ventilated place. Keep container tightly closed after opening. Prevent direct sun light or ignition sources.

Temperature Limit: max 35 °C.

Maximum Storage Period: 24 Months under standard storage conditions.

Container Type Packaging must comply with requirements of Hazardous Substances (Packaging) Regulations 2001.

For information on product shelf life, please review labels on container.

10. Exposure Controls/Personal Protection

OCCUPATIONAL EXPOSURE LIMITS :

Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

ACGIH/TLV :

Substance(s)

Sodium Hydroxide CEILING: 2 mg/m³

Sodium tetraborate, decahydrate: No OSHA Vacated PELs are listed for this chemical.

ENGINEERING MEASURES :

General ventilation is recommended.

RESPIRATORY PROTECTION :



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Respiratory protection is not normally needed. If significant mists, vapors or aerosols are generated an approved respirator is recommended. An approved respirator must be worn if the occupational exposure limit is likely to be exceeded. In confined spaces, use a breathing apparatus.

HAND PROTECTION :

Neoprene gloves, Nitrile gloves, Butyl gloves, PVC gloves

SKIN PROTECTION :

Wear standard protective clothing.

EYE PROTECTION :

Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS :

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Keep an eye wash fountain available. Keep a safety shower available.

HUMAN EXPOSURE CHARACTERIZATION :

Based on our recommended product application and personal protective equipment, the potential human exposure is: Low

11. Stability and Reactivity

Stability: Stable under normal temperature conditions and recommended use.

Polymerization: Hazardous polymerization does not occur

Materials to avoid: Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors. Contact with reducing agents (e.g. hydrazine, sulfites, sulfide, aluminum or magnesium dust) may generate heat, fires, explosions and toxic vapors. Do not mix with amines. Sodium nitrite can react with certain amines to produce N-nitrosamines, many of which are cancer-causing agents to laboratory animals..

Conditions to avoid: Toxic gases/vapors/fumes of: Nitrous gases (NO_x). Phosphine (PH₃). Carbon monoxide (CO). Carbon dioxide (CO₂).

12. Toxicological information

The following results are for the hazardous substances.

ACUTE ORAL TOXICITY :

Sodium Nitrite

Species LD50
Rat 180 mg/kg
Rating : Toxic

Sodium tetraborate

Oral, mouse: LD50 = 2 gm/kg;
Oral, rat: LD50 = 2660 mg/kg

CARCINOGENICITY :

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION :

Based on our hazard characterization, the potential human hazard is: High

ECOLOGICAL INFORMATION

The following results are for a similar product.

ACUTE FISH RESULTS :

Species Exposure LC50
Rainbow Trout 96 hrs 35 mg/l
Fathead Minnow 96 hrs > 320 mg/l
Rating : Slightly toxic

ACUTE INVERTEBRATE RESULTS :



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Species Exposure LC50 EC50
 Daphnia magna 48 hrs 630 mg/l Similar Product

Rating : Essentially non-toxic

PERSISTENCY AND DEGRADATION :

Total Organic Carbon (TOC) : 36,000 mg/l
 Chemical Oxygen Demand (COD) : 150,000 mg/l
 Biological Oxygen Demand (5 Day BOD) : 1,275 mg/l

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: Moderate

Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Low

13. Disposal Considerations

Disposal method:

Industrial setting: Disposal is according to all federal, state and local authorities for restrictions on disposal of chemical waste, manage chemical, waste through an approved waste treatment facility, do not reuse empty container in accordance with current local community codes please recycle empty container whenever possible.

14. Transport information

DOT/TDG: Please refer to the Bill of Lading/receiving documents for up to date shipping information
 Land and Sea Transport

UN Number:	3266
Transport Hazard Class	8
Shipping Name	CMC 4310
Packing Group:	III

15. Other Information

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :

Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Sodium Hydroxide : Irritant

Sodium Nitrite : Target Organ Effect - Kidney, Target Organ Effect - Blood, Target Organ Effect - Nervous system

16. Packing

HDPE container and sealed cap

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