



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

# MATERIAL SAFETY DATA SHEET

## CMC 5010

### MANUFACTURER:

**German metal surface treatment (SUGEST)**

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### 1. Product and Company Identification

**NAME** CMC 5010  
**USE** used as descaler and rust remover  
**LABEL** CMC 5010  
**Company** German metal surface treatment chemicals co.

### 2. Product Description

**CMC 5010** is used as a descaler and rust remover for boiler water treatment system with a specially formulated in a liquid form based on a blend of acid cleaner, wetting agents and corrosion inhibitor.

### 3. Hazards Identification

#### Emergency Overview

Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant, corrosive), of ingestion, . Slightly hazardous in case of inhalation (lung sensitizer). Non-corrosive for lungs. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath.

Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

#### Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Hydrochloric acid]. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, liver, mucous membranes, upper respiratory tract, skin, eyes, Circulatory System, teeth. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation.

Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

#### Potential Health Effects

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



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**Inhalation:** Inhalation of mists can cause corrosive action on mucous membranes. Symptoms include burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea. Move casualty to fresh air and keep at rest. Get medical attention if symptoms persist.

**Eyes:** Contact rapidly causes severe damage. Symptoms include eye burns, watering eyes. Permanent damage to cornea may result. In case of eye contact, rinse with plenty of water and seek medical attention immediately.

**Skin:** Severe and rapid corrosion from contact. Extent of damage depends on duration of contact. Symptoms include burning, itching, redness, inflammation and/or swelling of exposed tissues. Harmful if absorbed through skin. Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.

**Ingestion: Do Not Induce Vomiting!** Severe and rapid corrosive burns of the mouth, gullet and gastrointestinal tract will result if swallowed. Symptoms include burning, choking, nausea, vomiting and severe pain. Wash out mouth with water and give a glass of water or milk. Get medical attention immediately.

#### 4. Chemical Composition

| Ingredient        | CAS No        | Percent |
|-------------------|---------------|---------|
| Hydrochloric Acid | 7647-01-0     | 20 - 35 |
| Water             | 7732 - 18 - 5 | To 100  |

#### 5. Physical and Chemical Properties

|             |                |
|-------------|----------------|
| Odour       | Characteristic |
| pH at 25 °C | < 2.5          |

#### 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.



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## 7. Fire Fighting Measures

**Fire:** Non flammable

**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.

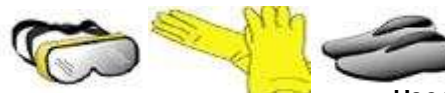
**Container Type** Packaging must comply with requirements of Hazardous Substances (Packaging) Regulations 2001.

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

## 10. Exposure Controls/Personal Protection

**Exposure Limit Values:**

CEIL: 5 (ppm) from OSHA (PEL) [United States] CEIL: 7 (mg/m3) from OSHA (PEL) [United States] CEIL: 5 from NIOSH CEIL: 7 (mg/m3) from NIOSH TWA: 1 STEL: 5 (ppm) [United Kingdom (UK)] TWA: 2 STEL: 8 (mg/m3) [United Kingdom (UK)] Consult local authorities for acceptable exposure limits.





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**Engineering controls:**

**Ventilation Requirements** No special ventilation requirements General room ventilation is adequate.

**Respiratory protection:**

If airborne concentrations exceed published exposure limits, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements (29 CFR 1910.134).

**Eye/face protection:** Chemical splash goggles.

**Skin protection:** For prolonged or repeated handling, use protective gloves made of: Neoprene, nitrile, polyethylene or PVC. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

**General Hygiene Considerations:** Avoid direct contact with eyes and skin.

## 11. Stability and Reactivity

**Stability:** Stable under normal temperature conditions and recommended use.

**Polymerization:** Hazardous polymerization does not occur

**Materials to avoid:** Strong acids. Strong oxidizing substances.

**Conditions to avoid:** Toxic gases/vapors/fumes of: Nitrous gases (NOx). Phosphine (PH<sub>3</sub>). Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

## 12. Toxicological information

**Routes of Entry:** Absorbed through skin. Dermal contact. Eye contact. Inhalation.

**Toxicity to Animals:**

Acute oral toxicity (LD<sub>50</sub>): 900 mg/kg [Rabbit]. Acute toxicity of the vapor (LC<sub>50</sub>): 1108 ppm, 1 hours [Mouse]. Acute toxicity of the vapor (LC<sub>50</sub>): 3124 ppm, 1 hours [Rat].

**Chronic Effects on Humans:**

**CARCINOGENIC EFFECTS:** Classified 3 (Not classifiable for human.) by IARC [Hydrochloric acid]. May cause damage to the following organs: kidneys, liver, mucous membranes, upper respiratory tract, skin, eyes, Circulatory System, teeth.

**Other Toxic Effects on Humans:**

Very hazardous in case of skin contact (corrosive, irritant, permeator), of ingestion, . Hazardous in case of eye contact (corrosive), of inhalation (lung corrosive).

**Special Remarks on Toxicity to Animals:**

Lowest Published Lethal Doses (LDL/LCL) LDL [Man] -Route: Oral; 2857 ug/kg LCL [Human] - Route: Inhalation; Dose: 1300 ppm/30M LCL [Rabbit] - Route: Inhalation; Dose: 4413 ppm/30M

**Special Remarks on Chronic Effects on Humans:**

May cause adverse reproductive effects (fetotoxicity). May affect genetic material.

**Special Remarks on other Toxic Effects on Humans:**

Acute Potential Health Effects: Skin: Corrosive. Causes severe skin irritation and burns. Eyes: Corrosive. Causes severe eye irritation/conjunctivitis, burns, corneal necrosis. Inhalation: May be fatal if inhaled. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract. Inhalation of hydrochloric acid fumes produces nose, throat, and laryngeal burning, and irritation, pain and inflammation, coughing, sneezing, choking sensation, hoarseness, laryngeal spasms, upper respiratory tract edema, chest pains, as well as headache, and palpitations. Inhalation of high concentrations can result in corrosive burns, necrosis of bronchial epithelium, constriction of the larynx and bronchi, nasospetal perforation, glottal closure, occur, particularly if exposure is prolonged. May affect the liver. Ingestion: May be fatal if swallowed. Causes irritation and burning, ulceration, or perforation of the gastrointestinal tract and resultant peritonitis, gastric hemorrhage and infection. Can also cause nausea, vomiting (with "coffee ground" emesis), diarrhea, thirst, difficulty swallowing, salivation, chills, fever, uneasiness, shock, strictures and stenosis (esophageal, gastric, pyloric). May affect behavior (excitement), the cardiovascular system (weak rapid pulse, tachycardia), respiration (shallow respiration), and urinary system (kidneys-renal failure, nephritis). Acute exposure via inhalation or ingestion can also cause erosion of tooth enamel. Chronic Potential Health Effects: dyspnea, bronchitis. Chemical pneumonitis and pulmonary edema can also.

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**



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Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation:** Not available.

### 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 Classification:** Class 8: Corrosive material

UN Number: 789

Shipping Name CMC 5010

Packing Group: II

### 15. Other Information

**Federal and State Regulations:**

Connecticut hazardous material survey.: Hydrochloric acid Illinois toxic substances disclosure to employee act: Hydrochloric acid Illinois chemical safety act: Hydrochloric acid New York release reporting list: Hydrochloric acid Rhode Island RTK hazardous substances: Hydrochloric acid Pennsylvania RTK: Hydrochloric acid Minnesota: Hydrochloric acid Massachusetts RTK: Hydrochloric acid Massachusetts spill list: Hydrochloric acid New Jersey: Hydrochloric acid New Jersey spill list: Hydrochloric acid Louisiana RTK reporting list: Hydrochloric acid Louisiana spill reporting: Hydrochloric acid California Director's List of Hazardous Substances: Hydrochloric acid TSCA 8(b) inventory: Hydrochloric acid TSCA 4(a) proposed test rules: Hydrochloric acid SARA 302/304/311/312 extremely hazardous substances: Hydrochloric acid SARA 313 toxic chemical notification and release reporting: Hydrochloric acid CERCLA: Hazardous substances.: Hydrochloric acid: 5000 lbs. (2268 kg)

**Other Regulations:**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

### 16. Packing

**HDPE container and sealed cap**

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