



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

MATERIAL SAFETY DATA SHEET

CMC 2170

MANUFACTURER:

German metal surface treatment (SUGEST)

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1. Product and Company Identification

NAME CMC 2170
USE used as catalyzed oxygen scavenger
LABEL CMC 2170
Company German metal surface treatment chemicals co.

2. Product Description

CMC 2170 is a high performance liquid catalyzed oxygen scavenger designed to scavenge oxygen and hence inhibit oxidative pitting corrosion within steam boilers.

3. Hazards Identification

Emergency Overview

Potential Acute Health Effects:

Hazardous in case of eye contact (irritant), of ingestion. Slightly hazardous in case of skin contact (irritant, sensitizer), of inhalation.

Thermal decomposition of this product produces irritating vapors and toxic gases (e.g. sulfur dioxide), which may increase fire hazard due to the flammability of sulfur dioxide.

Potential Health Effects

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

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.



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4. Chemical Composition

Ingredient	CAS No	Percent
Sodium bisulfite	7631-90-5	20 - 60
Water	7732 - 18 - 5	To 100

5. Physical and Chemical Properties

Appearance	Clear Colourless to pale yellowish liquid
Odour	Characteristic
pH at 25 °C	3.7 – 4.3
Density at 25 °C	1.3 ±0.05 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

Flash Point (method): Not applicable, product is non-flammable

Autoignition Temperature: Not combustible

Flammability Limits in air(%): UEL: Not applicable LEL: Not applicable

Fire Extinguishing Media: For small fires use dry chemical, carbon dioxide or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam or flood fire area with water. Do not get solid stream of water on spilled material.

Special Fire Fighting Procedures: Oxides of Sulfur may be present during a fire. Use self-contained breathing apparatus and full protective clothing are recommended. Gas tight suits are required in extreme (>1000 ppm) concentrations of Sulfur dioxide. Evacuate residents who are downwind of fire. Prevent unauthorized entry to fire area. Dike area to contain runoff and prevent contamination of water sources. Neutralize runoff with lime, soda ash or other suitable neutralizing agents (see Deactivating Chemicals, Section 6). Cool containers that are exposed to flame with streams of water until fire is out.

Other Fire or Explosion Hazards: Thermal decomposition products are toxic and include oxides of Sulfur. Sodium sulfide may be formed after dried solution residues are heated. This is an explosive hazard and strongly alkaline in contact with water.



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8. Accidental Release Measures

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

Steps to be taken in the event of a spill or leak: Remove all ignition sources. Ventilate area. Use appropriate Personal Protection Equipment. Prevent liquid from entering sewers or waterways. Dike with inert material (sand, earth, etc.). Stop or reduce leak if safe to do so. Collect into containers for reclamation or disposal only if container is suitable to withstand the material. Consider insitu neutralization and disposal. Ensure adequate decontamination of tools and equipment following clean up. Comply with Federal, Provincial/State and local regulations on reporting releases.

Deactivating Chemicals: Alkali materials such as dilute sodium hydroxide, Lime, limestone, sodium carbonate (soda ash), sodium bicarbonate, dilute aqua ammonia. Sulfur dioxide may be released during neutralization.

Waste Disposal Methods: Dispose of waste material at an approved waste treatment/disposal facility, in accordance with applicable regulations. Do not dispose of waste with normal garbage or to sewer systems. Note - Clean-up material may be a RCRA Hazardous Waste on disposal. - Spills are subject to CERCLA reporting requirements: RQ = 5000 lbs (2270 kg)

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.

RECOMMENDED STORAGE TEMPERATURE

Minimum: 0 C (32.0 F) - Maximum: 35 C (100.4 F)

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

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

Recommendations listed in this section indicate the type of equipment which will provide protection against over exposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

Engineering Controls: Provide exhaust ventilation or other controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure the eyewash stations and safety showers are proximal to the workstation location.

Respiratory Protection: A NIOSH/MSHA approved air-purifying respirator equipped with acid gas/fume, dust, mist cartridges for concentrations up to 50mg/m³ or 20 ppm as sulfur dioxide. A powered air-purifying respirator with acid gas cartridges for up to 50 ppm sulfur dioxide. A full-face piece air-supplied respirator if concentrations are for up to and higher than 100 ppm sulfur dioxide.

Skin Protection: Impervious (i.e., neoprene, PVC, rubber) gloves, coveralls, boots and/or other acid resistant protective clothing.

Eye Protection: Tight-fitting chemical goggles and face shield.

Other Personal Protective Equipment: Where there is a danger of spilling or splashing, acid resistant aprons or suits should be worn. Trouser legs should be worn outside (not tucked in) rubber boots. Safety showers and eyewash fountains should be installed in storage and handling areas.

11. Stability and Reactivity



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Chemical Stability

Product is normally stable. Sodium bisulfite is air and moisture sensitive and releases sulfur dioxide slowly at ambient temperatures. Sodium bisulfite will decompose on heating to form sodium sulfate.

Chemical Stability: Conditions to Avoid

Avoid moisture, high temperatures, exposure to air and incompatible materials.

Incompatibility

This material is incompatible with strong oxidizers, sodium nitrite and alkalis. Sodium bisulfite may produce sulfur dioxide gas when in contact with acids and/or water and ice. Large-scale addition of solid sodium bisulfite to an unstirred and too concentrated solution of sodium nitrite may cause a vigorous exothermic reaction.

Hazardous Decomposition

Products of thermal decomposition include sodium sulfate, sulfur oxides, and sodium oxide. Products of hydrolysis include sodium dioxide.

Polymerization: Hazardous polymerization does not occur

12. Toxicological information

Acute and Chronic Toxicity

A: General Product Information

May cause eye, skin, nose, throat and respiratory tract irritation. May be harmful if swallowed.

Chronic: Long term skin overexposure to this product may lead to dermatitis (red, itchy skin). Prolonged or repeated contact may cause allergic respiratory and skin reactions in sensitive individuals. Respiratory sensitization can be life-threatening in some cases.

Ingredient Name	Test	Result	Route	Species
Sodium Bisulfite Solution	LD50	2000 mg/kg	Oral	Rat

Carcinogenicity Data: Sodium bisulfite is not classified by NTP (National Toxicology Program), not regulated as carcinogenic by OSHA (Occupational Safety and Health Administration), and has been evaluated by IARC (International Agency for Research on Cancer) as a Group 3 (are not classifiable as to their carcinogenicity to humans). ACGIH (American Conference of Governmental Industrial Hygienists) classifies it as an A4 = Not classifiable as a human carcinogen.

Reproductive Effects: Not available

Mutagenicity Data: Evidence of mutagenic activity in bacteria, microorganisms, and DNA.

Teratogenicity Data: Not available Synergistic Materials: None known

ECOLOGICAL INFORMATION

Ingredient Name	Species	Period	Result
Sodium Bisulfite Solution	Mosquito fish. (LC50)	96 hour(s)	240 ppm

Products of Degradation : These products are sulfur oxides (SO₂, SO₃). Some metallic oxides.

Toxicity of the Products of Biodegradation: The products of degradation are toxic.

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

International Transportation Regulations



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Proper Shipping Name: Environmentally Hazardous Substance, solid, n.o.s. (Sodium bisulfite)

Hazard Class: 8

Packing Group: III

Product Identification No. (PIN): UN 2693

15. Other Information

U.S.A. SARA Title III HAZARD CATEGORIES AND LISTS Product Hazard Categories Lists

Acute (Immediate) Health: Yes

Extremely Hazardous Substance (40 CFR 355, SARA Title III Section 302): n/a

Chronic (Delayed) Health: No

Fire: No

CERCLA Hazardous Substance (40 CFR 302.4): Yes

Reactivity: No

Sudden Release of Pressure: No

Toxic Chemical (40 CFR 372.65, SARA Title III Section 313): Yes

Reportable Quantity (RQ) under U.S. EPA CERCLA: RQ=5000 lb

TSCA Inventory Status: Reported/Included

Right-To-Know: Illinois, Massachusetts, New Jersey, Pennsylvania

California prop. 65: No products were found.

Δ CANADA

Workplace Hazardous Materials Information System (WHMIS)

WHMIS Classification(s): Class D-2B Material causing other toxic effects (TOXIC)

Δ Class E –Corrosive

CEPA DSL: All components listed.

WHMIS Health Effects Index: Corrosive Material Δ Sensitizing Material

WHMIS Ingredient Disclosure List: Confirmed A; Meets criteria for disclosure at 1% or greater.

EINECS Number: 231-548-0

EPA Regulations: RCRA Hazardous Waste Classification (40 CFR 261): Not listed.

RCRA Hazardous Waste Number (40 CFR 261): Not listed.

CERCLA Hazardous Substance (40 CFR 302.4): Listed.

OSHA Regulations: Air Contaminant (29 CFR 1910.1000): Not listed.

OSHA Specifically Regulated Substance: Not listed.

16. Packing

HDPE container and sealed cap



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