



MATERIAL SAFETY DATA SHEET

Section 1. PRODUCT AND COMPANY IDENTIFICATION

MSDS ID: MSDS518

Product Name: MACKÒ SCA Coolant Additive for the Spin-on Coolant Filter
Product Code: 104SF1, FK8834MKS, FK8865MKS, FK9068MKS, FK9522MKS, FK9524MKS

Manufacturer:

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MSDS Date of Preparation: 10/30/06

Product Use: Cooling system additive for trucks

Section 2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Amount
Sodium Nitrite	7632-00-0	40-50%
Sodium Metaborate	7775-19-1	1-45%
Mercaptobenzothiazole	149-30-4	10-15%
Sodium Silicate	6834-92-0	1-45%
Sodium Borate Pentahydrate	12179-04-3	1-45%
Sodium Nitrate	7631-99-4	5-10%

Section 3. HAZARDS IDENTIFICATION

This product is a white powder with no odor.

EMERGENCY OVERVIEW

Oxidizer. Corrosive. Contact with other materials may cause fire. May cause severe eye and skin irritation. May be absorbed through the skin in harmful amounts. Inhalation of dust may cause respiratory irritation, coughing, nose bleeds, sore throat, shortness of breath and tightness in the chest. Harmful or fatal if inhaled, ingested or absorbed through the skin. May cause nitrite poisoning.

Section 4. FIRST AID MEASURES

Eye: Immediately flush eyes with large quantities of water for at least 15 minutes, holding the eyelids apart. Get immediate medical attention.



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Skin: Remove contaminated clothing. Immediately wash skin thoroughly with soap and water. If irritation develops or persists, get medical attention. Launder clothing before re-use. (Discard contaminated shoes)

Ingestion: DO NOT INDUCE VOMITING. If conscious, give one glass of water or milk. Never give anything by mouth to an unconscious or convulsing person. Get immediate medical attention.

Inhalation: If dust is inhaled, immediately remove to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Get medical attention.

Notes to Physicians: The principal toxic effects of sodium nitrite poisoning are vasodilation and/or methemoglobinemia. Hypotension with syncope and tachycardia are common findings. Coronary vasospasm due to acute withdrawal may be seen. Paradoxical bradycardia may occur rarely. Coronary ischemia and cerebrovascular disease can occur due to severe hypotension. Immediate life support measures should be provided because of associated hypotension, seizures, and methemoglobinemia-induced anoxia. Immediately contact a poison center or hospital emergency department for treatment advice. The specific antidote for nitric induced methemoglobinemia is methylene blue.

Section 5. FIRE FIGHTING MEASURES

Flashpoint: >200°F (93°C) PMCC

Flammable Limits: LEL: Not applicable UEL: Not applicable

Autoignition Temperature: Not available

Extinguishing Media: Use water to extinguish fire. Do not use dry chemicals or foams.

Unusual Fire or Explosion Hazards: Product may accelerate burning or decompose explosively. Powder that come in contact with combustibles may cause ignition.

Special Fire-Fighting Instructions: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Fight fire from maximum distance or use unmanned hose holders. Do not allow run-off from fire fighting to enter drains or water courses. Runoff may cause pollution.

Hazardous Combustion Products: Thermal decomposition may release carbon, nitrogen and sulfur oxide, nitrous oxide and hydrogen gas.

Explosion Data (sensitivity to mechanical impact or static discharge): Powder may be sensitive to mechanical impact.

Section 6. ACCIDENTAL RELEASE MEASURES

Evacuate spill area and keep unprotected personnel away. Remove all combustible or flammable materials from spill area if it is safe to do so. Wear appropriate protective clothing as described in Section 8. Collect dust and place into appropriate container for disposal. Vacuum up remaining dust. Do not use combustible absorbents or towels. If spill occurs outdoors, cover the spill to prevent wind from spreading dust to the surrounding area. Report releases as required by local, state and federal authorities.

Section 7. HANDLING AND STORAGE

Handling: Wash thoroughly with soap and water after handling.



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Prevent contact with the eyes, skin and clothing. Avoid breathing dusts. Wear protective clothing and equipment. Wash thoroughly with soap and water after handling. Keep powder away from all flammable or combustible materials such as solvents, oil, paper, cloth rags, etc.

Do not reuse containers. Empty containers retain product residues can be hazardous. Follow all MSDS precautions when handling empty containers.

Storage: Store in a dry, well ventilated area away from excessive heat and sources of ignition. Avoid storage on wooden floors.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Sodium Nitrite	None Established
Sodium Metaborate	2 mg/m ³ TWA ACGIH TLV (inhalable) 6 mg/m ³ STEL ACGIH TLV (inhalable)
Mercaptobenzothiazole	5 mg/m ³ TWA skin AIHA WEEL
Sodium Silicate	None Established
Sodium Borate Pentahydrate	2 mg/m ³ TWA ACGIH TLV (inhalable) 6 mg/m ³ STEL ACGIH TLV (inhalable)
Sodium Nitrate	None Established

Engineering Controls: Use with general or adequate local exhaust ventilation to maintain exposures below the occupational exposure limits.

Respiratory Protection: If the exposure limits are exceeded, a NIOSH approved particulate respirator (N95 or better filters) may be worn. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin Protection: Wear impervious gloves such as neoprene.

Eye Protection: Chemical safety goggles are recommended.

Other: Wear impervious clothing as needed to prevent contact. A safety shower and eyewash should be available in the immediate work area.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: White powder with no odor.

Physical State: Solid	Boiling Point: Not applicable
Vapor Density: <1.0	Vapor Pressure: <0.1 mmHg
Solubility In Water: Approximately 10%	Evaporation Rate: <1
Specific Gravity: 1.078	pH: ~1.5 in a 1% solution
Melting Point: Not applicable	Octanol/Water Coefficient: Not determined



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Section 10. STABILITY AND REACTIVITY

Stability: Stable under normal storage and handling conditions.

Incompatibility: Avoid strong acids, reducing agents, cyanides and ammonium salts. Powder may ignite on contact with organic materials.

Hazardous Decomposition Products: Thermal decomposition may release carbon, nitrogen and sulfur oxide, nitrous oxide and hydrogen gas.

Hazardous Polymerization: Will not occur.

Section 11. TOXICOLOGICAL INFORMATION

HEALTH HAZARDS:

Ingestion: Ingestion may cause gastrointestinal irritation, dizziness, nausea, vomiting, bloody diarrhea, low blood pressure, convulsions, increase in urine output, and collapse. Overexposure to sodium nitrite may cause nitrite poisoning with symptoms including nausea, dizziness, vertigo, vomiting, collapse, cyanosis, abdominal pain, methemoglobinemia, rapid heart beat, irregular breathing, coma, convulsions, circulatory collapse and death.

Inhalation: Inhalation of dust may cause respiratory irritation with symptoms of coughing, nose bleeds, sore throat, shortness of breath and tightness in the chest. Overexposure to sodium nitrite may occur with symptoms similar to those listed under ingestion.

Eye: Contact may cause severe irritation with redness, tearing and pain. Corneal damage is possible.

Skin: Contact may cause severe irritation with redness, itching and pain. Prolonged contact may cause burns. Sodium nitrite and sodium tetraborate may be absorbed through the skin causing effects similar to those described under inhalation and ingestion.

Sensitization: Mercaptobenzothiazole has been found to cause contact dermatitis.

Chronic: Prolonged or repeated exposure may cause mild gastroenteritis, dermatitis, eczema, headache, mental impairment, loss of hair, bronchitis, laryngitis, conjunctivitis, kidney and liver damage and anemia. Sodium tetraborate, sodium nitrate and mercaptobenzothiazole have been found to cause adverse reproductive effects and/or birth defects in studies with laboratory animals.

Carcinogenicity: None of the components is listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

Mutagenicity: Sodium tetraborate, sodium nitrate and mercaptobenzothiazole have tested positive for mutagenicity in some test systems.

Medical Conditions Aggravated by Exposure: Employees with pre-existing skin, respiratory and kidney disease may be at increased risk from exposure to the product.

Section 11. TOXICOLOGICAL INFORMATION

Acute Toxicity Values:

Sodium Nitrite: Oral Rat LD50 - 180 mg/kg

Sodium Metaborate: Oral Rat LD50 - 2,330 mg/kg

Mercaptobenzothiazole: Oral Rat LD50 - 100 mg/kg

Inhalation Rat LC50 - > 1,270 mg/m³

Skin Rabbit LD50 - >7,940 mg/kg



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CANADA:

This product has been classified under the CPR and this MSDS discloses information elements required by the CPR.

Canadian WHMIS Classification: Class C (Oxidizing Material); Class D - Division 1 - Subdivision B - (A very toxic material causing other chronic effects)

Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian Domestic Substances List.

European Inventory Of Existing Commercial Chemical Substances (EINECS): All of the ingredients are listed on the EINECS inventory.

Australia: All of the ingredients of this product are listed on the Australian Inventory of Chemical Substances.

Section 16. OTHER INFORMATION

NFPA Rating: Health = 2 Fire = 0 Instability = 1 Special: OXY

HMIS Rating: Health = 2* Fire = 0 Physical Hazards = 1

Revision Summary: Footer: Corrected pagination

Disclaimer of Liability:

The information contained herein is based on the data available to us and, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we assume no liability for damages incurred by use of this material. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that may exist. Users of this product should satisfy themselves that the conditions and methods of use assure the product is used safely. No representations or warranties, either expressed or implied, or any nature are made hereunder with respect to the information contained within. It is the responsibility of the user to comply with all and all federal, state or local laws and regulations that may exist. Nothing contained herein is to be construed as a recommendation for use in violation of any applicable laws or regulations.

Consult Honeywell CPG for further information.