



MATERIAL SAFETY DATA SHEET

Section 1. PRODUCT AND COMPANY IDENTIFICATION

MSDS ID: MSDS519

Product Name: MACKÒ Spin-on Coolant Filter with Supplemental Coolant Additive

Product Code: 25MF435B; 25MF436B, 20539991, FK3352MK5SV, FK3434MK5SV, FK3937MK4SV, FK3938MK4SV, FK6899MK3SV, FK7671MK1SV, FK8407MK1SV, FK9521MKSV, FK9523MKSV

Manufacturer:

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MSDS Date of Preparation: 10/30/06

Product Use: Cooling system filter 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 metal filter containing white or yellow briquettes.

EMERGENCY OVERVIEW

This product is a manufactured article (truck coolant filter) containing white briquettes. The filter unit is sealed so no contact with the contents occurs during normal handling or use. No adverse effects are expected with normal handling of the metal filter. Contact with the briquettes may cause the following adverse effects:

May cause 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.



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Section 4. FIRST AID MEASURES

Eye: None expected with normal use. If contact occurs with filter briquettes, immediately flush eyes with large quantities of water for at least 15 minutes, holding the eyelids apart. Get medical attention.

Skin: None expected with normal use. If contact with the filter briquettes occurs, 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: None expected with normal use. If filter briquettes or dust is swallowed, 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: None expected with normal use. If dust from the filter briquettes 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 media appropriate to the surrounding materials. If filters are damaged and briquettes are released, use water to extinguish fire. Do not use dry chemicals or foams.

Unusual Fire or Explosion Hazards: If briquettes are released from the filter during a fire, product may accelerate burning or decompose explosively.

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: None expected from metal filters. Thermal decomposition of briquettes may release carbon, nitrogen and sulfur oxide, nitrous oxide and hydrogen gas.

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



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Section 6. ACCIDENTAL RELEASE MEASURES

If filters are damaged and briquettes are released, 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 filters and place into appropriate container for disposal. Pick up briquettes and place into container. 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. Protect filters against physical damage.

If filters are damaged and briquettes are released, avoid contact with the eyes, skin and clothing. Avoid breathing dusts. Wear protective clothing and equipment. Wash thoroughly with soap and water after handling. Keep briquettes or dust away from all flammable or combustible materials such as solvents, oil, paper, cloth rags, etc.

Storage: Store filters 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 6 mg/m ³ STEL ACGIH TLV
Mercaptobenzothiazole	5 mg/m ³ TWA skin AIHA WEEL
Sodium Silicate	None Established
Sodium Borate Pentahydrate	2 mg/m ³ TWA ACGIH TLV 6 mg/m ³ STEL ACGIH TLV
Sodium Nitrate	None Established

Engineering Controls: General ventilation is adequate for normal use.

Respiratory Protection: None needed for normal use. In situations where contact with the briquettes is likely and 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: None needed for normal use. In situations where contact with the briquettes is likely, wear impervious gloves such as neoprene.

Eye Protection: None needed for normal use. In situations where contact with the briquettes is likely, chemical safety goggles are recommended.

Other: None needed for normal use. In situations where contact with the briquettes is likely, wear impervious clothing as needed to prevent contact. A safety shower and eyewash should be available in the immediate work area.



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Section 9. PHYSICAL AND CHEMICAL PROPERTIES

The following physical characteristics are for the briquettes only.

Appearance and Odor: White or yellow briquettes.

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

Section 10. STABILITY AND REACTIVITY

Stability: Stable under normal storage and handling conditions.

Incompatibility: The briquettes are incompatible with strong acids, reducing agents, cyanides and ammonium salts. Briquettes may ignite on contact with organic materials.

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

Hazardous Polymerization: Will not occur.

Section 11. TOXICOLOGICAL INFORMATION

HEALTH HAZARDS:

Ingestion: None expected under normal use conditions. Ingestion of briquettes 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: None expected under normal use conditions. Inhalation of briquette 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: None expected under normal use conditions. Contact with briquettes may cause irritation with redness, tearing and pain.

Skin: None expected under normal use conditions. Contact with briquettes may cause irritation with redness, itching and pain. Sodium nitrite and sodium tetraborate may be absorbed through the skin causing effects similar to those described under inhalation and ingestion.

Sensitization: Metcaptobenzothiazole has been found to cause contact dermatitis.

Chronic: None expected under normal use conditions. Prolonged or repeated exposure to briquettes 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.



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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: None expected under normal use conditions. Employees with pre-existing skin, respiratory and kidney disease may be at increased risk from exposure to the briquettes.

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

Sodium Silicate: Oral Rat LD50 - 1,153 mg/kg

Sodium Borate Pentahydrate: No data available

Sodium Nitrate: Oral Rat LD50 - 1,267 mg/kg

Section 12. ECOLOGICAL INFORMATION

Sodium Nitrite: LC50/96 hour minnow: >100 mg/L

Sodium Metaborate: EC50/24 hour Daphnia magna: 242 mg B/L

Mercaptobenzothiazole: No data available

Sodium Silicate: 96 hour mean tolerance fish: 2320 ppm

96 hour mean tolerance daphnia: 247 ppm

Sodium Borate Pentahydrate: EC50/24 hour Daphnia magna: 242 mg B/L

Sodium Nitrate: LC50/96-hour fathead minnow: >1,000 mg/L

LC50 96-hour daphnia: >1,000 mg/L

Section 13. DISPOSAL CONSIDERATIONS

Dispose in accordance with local, state and federal environmental regulations.

Section 14. TRANSPORT INFORMATION

Dot Hazardous Materials Description:

Proper Shipping Name: Not Regulated

UN Number: None

Hazard Class/Packing Group: None

Labels Required: None

Note: If >200 pounds of this product in a single container, RQ requirements apply.



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Section 15. REGULATORY INFORMATION

CERCLA: This product has a Reportable Quantity (RQ) of 200 lbs. based on the RQ for Sodium Nitrite of 100 lbs. Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

Section 15. REGULATORY INFORMATION

SARA Hazard Category (311/312): Not applicable

SARA 313: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Mercaptobenzothiazole	149-30-4	10-15%
Sodium Nitrite	7632-00-0	40-50%
Nitrate Compounds (Sodium Nitrate)	7631-99-4	5-10%

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

CANADA:

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

Canadian WHMIS Classification: Manufactured article

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

Ratings for filter contents:

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

Revision Summary: Footer: Corrected pagination



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Consult Honeywell CPG for further information.