

MATERIAL SAFETY DATA SHEET

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MARTIN MARIETTA MAGNESIA SPECIALTIES P.O. BOX 15470 BALTIMORE, MD 21220 (410) 780-5500	MSDS CODE: 5140R DATE: 01-04-1999
EMERGENCY PHONE: 800-424-9300 CHEMTREC	
CHEMICAL DESCRIPTION: Oil based Fuel additive with Magnesium Oxide and Aluminum Trihydrate.	
PRODUCT NAME(S): CH-22 (7002A)	

SECTION II: HAZARDOUS COMPONENTS

HAZARDOUS COMPONENT	CAS NUMBER	ACGIH/OSHA EXPOSURE LIMIT
Aluminum Trihydrate	21645-51-2	10 mg/m <sup>3</sup> (RESP)*
Fuel Oil	68476-34-6	200 ppm
Iron Oxide	01309-37-1	10 mg/m <sup>3</sup> (RESP)*
Magnesium Oxide	01309-48-4	10 mg/m <sup>3</sup> (RESP)*
Petroleum Oil	64742-65-0	None established

SECTION III: PHYSICAL DATA

BOILING POINT (F): Not determined	FREEZE POINT (F):
pH:	VAP PRESS (mm Hg): Not determined
% VOLATILE (by VOL): Not determined	SPECIFIC GRAVITY: ~ 1.6 at 75 F
VAPOR DENSITY: Not determined	EVAPORATION RATE: Not determined
SOLUBILITY IN WATER: Negligible	ODOR THRESH (ppm): Not determined
PHYSICAL STATE: Liquid	OIL/WATER COEFFIC: Not determined
APPEARANCE AND ODOR: Reddish-gray liquid slurry, petroleum odor.	

SECTION IV: FIRE & EXPLOSION DATA (con't on page 2)

FLASH POINT (METHOD): ~ 140 F (Pensky-Martin Closed Cup)		
AUTO-IGNITION TEMP: Not determined	LEL: Not det	UEL: Not det
SENSITIVE TO MECHANICAL IMPACT? No	SENSITIVE TO STATIC DISCHARGE? No	

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SECTION IV: FIRE & EXPLOSION DATA (con't From page 1)

EXTINGUISHING MEDIA:

Dry chemical and carbon dioxide. Foam and water fog are also effective, but may cause frothing if sprayed into hot or burning product.

SPECIAL FIREFIGHTING PROCEDURES:

Do not enter enclosed or confined spaces without NIOSH approved organic vapor respirator or self-contained breathing apparatus for protection against combustion products or oxygen deficiencies. If possible to do so safely, shut off product at source. Use caution when spraying water to cool container surfaces exposed to heat or flame as frothing may occur, especially if water is sprayed into hot or burning product.

UNUSUAL FIRE & EXPLOSION HAZARDS:

When heated above its flash point, this product may release hazardous or flammable vapors which can burn in open spaces or collect to create a potentially explosive condition in enclosed spaces. Mists or sprays may be flammable at temperatures below the normal flash point.

SECTION V: REACTIVITY DATA

STABLE - YES: XX

NO:

CONDITIONS OF REACTIVITY:

Product may react with incompatibles listed below.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong oxidizers such as, but not limited to, sodium hypochlorite, chromic acid, hydrogen peroxide, bromine, liquid chlorine or liquid oxygen.

HAZARDOUS DECOMPOSITION PRODUCTS:

May produce smoke, carbon monoxide, carbon dioxide, and trace (or ppb) levels of sulphur oxide(s), phosphorous oxide(s), zinc oxide(s), lead oxide(s), cadmium oxide(s), chrome oxide(s), or arsenic oxide(s).

IS THIS PRODUCT SUBJECT TO POLYMERIZATION?

NO: XX

YES:

CONDITIONS UNDER WHICH PRODUCT WILL POLYMERIZE:

None known.

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SECTION VI: TOXICOLOGICAL/HEALTH HAZARD DATA

ROUTES OF ENTRY	- SKIN CONTACT: YES INHALATION: YES	SKIN ABSORPTION: No INGESTION: YES	EYE CONTACT: Yes
EFFECTS OF INHALATION:			
At ambient temperatures vapors have a low order of toxicity. However, when product is heated, vapors may reach concentrations in enclosed spaces sufficient to cause nausea, headache, dizziness, drowsiness, or lung irritation.			
EFFECTS TO EYES:			
May be mildly irritating to eyes but should not cause eye tissue damage.			
EFFECTS TO SKIN:			
Frequent or prolonged skin contact without adequate personal protection may be irritating to exposed skin and may lead to dermatitis.			
EFFECTS IF INGESTED:			
Product is generally low in toxicity if ingested. Large amounts may cause generalized depression, headache, drowsiness, nausea, vomiting, or diarrhea. Small doses may produce irritation and diarrhea. Minute amounts which may be aspirated into lungs during swallowing or subsequent vomiting may cause severe lung irritation.			
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:			
Exposure to product without adequate personal protection may aggravate pre-existing respiratory disease or skin condition (such as dermatitis).			
CONSIDERED CARCINOGENIC BY - NTP? NO			
IARC? NO			
OSHA? NO			

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#### SECTION VII: PREVENTATIVE MEASURES

##### GLOVES:

Oil impervious gloves if frequent or prolonged contact is expected.

##### EYES:

Safety goggles or chemical splash goggles, especially if splashing is anticipated.

##### CLOTHING:

Wear body covering work clothes to avoid prolonged or repeated exposure. Change clothing frequently if contaminated with product. Launder soiled work clothes before re-using.

##### RESPIRATORY PROTECTION:

Under ambient conditions, normally none required. If high vapor or mist concentrations are expected, use NIOSH approved respirator for organic vapors.

##### SPECIFIC ENGINEERING CONTROLS TO BE USED WITH THIS PRODUCT:

This material has a low vapor pressure and is not expected to present an inhalation hazard at ambient conditions. However, if vapor is generated as the product is heated, misted, or sprayed, adequate ventilation in accordance with good engineering practices must be provided to maintain concentrations below the specified exposure or flammable limits.

##### PROCEDURES TO FOLLOW IN CASE OF SPILL OR LEAK:

Immediately remove all sources of ignition. If possible to do so safely, shut off product at source. Ventilate enclosed space and use appropriate respiratory protection. Contain spill and prevent product from entering all bodies of water. Evacuate all non-essential personnel from immediate area due to slippery conditions. Clean up spilled product, including any soil or water which is contaminated, as soon as possible, with pump (explosion proof motor) or absorb with vermiculite, sand or similar inert material. Reclaim product for possible re-use or collect and seal in approved containers for disposal in an appropriate manner.

DISPOSAL PROCEDURE: Dispose in accordance with local, state and federal regs.

#### SECTION VII: PREVENTATIVE MEASURES

##### HANDLING PROCEDURES AND EQUIPMENT:

Keep container closed when not in use. Use in well ventilated area. Store in a cool location well away from strong oxidizers and building exits. Take precautions to eliminate sources of ignition such as open flames, pilot lights, or welding equipment. Never use a cutting torch on or near product or empty drum containing any residue of this product.

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PREVENTATIVE MEASURES (con't. From page 4)

<p>STORAGE REQUIREMENTS: Consumption of food and beverages should be avoided in work areas where product is being used. After using product, always wash hands and face with soap and water before eating, drinking or smoking.</p>		
DOT SHIP NAME: Fuel oil mixture.	CLASS: Combustible liq	UN#: UN 1993
NFPA - FIRE:1 OTHER:	HEALTH:1	REACTIVITY: 0
<p>SARA: None of the components in this product are reportable under Section 302 or Section 313 of SARA Title III.</p>		
<p>TSCA: All components of this product are on the TSCA inventory list.</p>		

SECTION VIII: FIRST AID PROCEDURES

<p>INHALATION: If overcome by vapor or mist from heated or sprayed product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation and administer oxygen, if available.</p>
<p>EYE CONTACT: Do not rub eyes. Flush eyes with clear water for at least fifteen (15) minutes while rotating eyes in every direction to ensure that no solid particles remain in creases of eyelids. If so, continue to flush. If irritation persists, consult an ophthalmologist.</p>
<p>SKIN CONTACT: Remove from source of irritation. Remove any contaminated clothing and wash affected area(s) thoroughly with a mild soap and water. Launder clothing before re-using. If irritation persists, consult a physician.</p>
<p>INGESTION: Due to possibility of aspiration into lungs, DO NOT induce vomiting. Keep exposed person at rest and immediately call a physician.</p>

SECTION IX: PREPARATION INFORMATION

PREPARED BY: Linda Aydlett	PHONE: (410) 455-5719	DATE PREPARED: 01-04-1999
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