

MATERIAL SAFETY DATA SHEET

Total Solutions
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GENERAL INFORMATION NUMBER: (414) 354-6417
CHEMTREC: (800) 424-9300

REVISION DATE: June 5, 2007
DATE OF ISSUE: June 5, 2007

I - Product Identification

Engine Starter

PRODUCT CODE: 8550

CHEMICAL FORMULATION: Pressurized diethyl ether based engine starter.

NFPA HAZARD IDENTIFICATION SYSTEM: HEALTH: 2 FLAMMABILITY: 4 REACTIVITY: 1
HAZARD RATING: 4 - Extreme; 3 - High; 2 - Moderate; 1 - Slight; 0 - Insignificant

II - Hazardous Ingredients

Values reported as TWA unless noted.

<u>SUBSTANCE</u>	<u>APPROX</u> <u>%</u>	<u>OSHA</u> <u>PEL</u>	<u>ACGIH</u> <u>TLV</u>	<u>EPA 40 CFR:</u>			<u>CAS #</u>
				<u>302</u>	<u>355</u>	<u>372</u>	
Diethyl Ether	40.0-45.0	400 ppm	400 ppm	Y	N	N	60-29-7
Heptane, related light hydrocarbons	45.0-50.0	500 ppm	400 ppm	N	N	N	142-82-5
Mineral Oil, severely hydrotreated	< 1.0	N/E	N/E	N	N	N	64742-53-6
Carbon Dioxide	5.0-10.0	5000 ppm	5000 ppm	N	N	N	124-38-9

Key: PEL: Permissible Exposure Limit TLV: Threshold Limit Value C: Ceiling level STEL: Short Term Exposure Limit
N/A: Not Applicable N/D: Not Determined N/E: Not Established Y: Yes N: No
302: CERCLA List of Hazardous Substances and Reportable Quantities (40 CFR 302.4).
355: SARA TITLE III / List of Extremely Hazardous Substances for Emergency Planning and Notification (40 CFR 355).
372: SARA TITLE III / List of Toxic Chemicals subject to Release Reporting (Community Right to Know) (40 CFR 372).

III - Physical Data

BOILING POINT (°F): 94, for Diethyl ether
VAPOR PRESSURE (mm Hg): N/D
VAPOR DENSITY (AIR = 1): 2.5
SOLUBILITY IN WATER: Negligible
APPEARANCE AND ODOR: Pale yellow to clear liquid, strong ethereal odor.
SPECIFIC GRAVITY (WATER = 1): Greater than 1
VOC CONTENT (% by weight): 85.0 – 95.0
EVAPORATION RATE (WATER = 1): > 1.0
pH: N/A

IV - Fire and Explosion Hazard Data

FLASH POINT (°F): < -56 (TEST METHOD): T.C.C. NFPA 30B Rating: 3
FLAMMABLE LIMITS IN AIR (VOLUME %) UPPER: 48.0 LOWER: 1.8
EXTINGUISHING MEDIA: Foam, carbon dioxide, dry chemical.
SPECIAL FIRE FIGHTING PROCEDURES: Avoid possible accumulations of vapors at floor level, as vapor is heavier than air. Cool fire exposed containers with water fog. Firefighters should be equipped with full protective gear including self-contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARD: Contents under pressure! Exposure to temperatures above 120° F may cause bursting. Extremely flammable.

V - Reactivity Data

STABILITY: Unstable explosive peroxides may be formed and concentrate by evaporation to hazardous levels. This process is favored by prolonged storage with exposure to air and light. Product is generally stable in sealed metal containers.

INCOMPATIBILITY: Strong acids and oxidizers.

CONDITIONS TO AVOID: Excess heat, open flame sparks.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may produce oxides of carbon.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: None

VI - Health Hazard Data

ROUTES OF ENTRY INHALATION: X **EYE CONTACT:** SKIN CONTACT: X **INGESTION:**
INGREDIENTS THAT ARE CONSIDERED BY OSHA, NTP, IARC TO BE SUSPECTED HUMAN CARCINOGENS: None

EFFECTS OF OVEREXPOSURE

IF IN EYES: Moderate to severe irritation.

IF ON SKIN: Irritation, defatting and dermatitis with prolonged or repeated exposure.

IF SWALLOWED: Gastrointestinal irritation, nausea, cramps, diarrhea. May be harmful or fatal if swallowed.

IF INHALED: : Dizziness, strong anesthesia, intoxication, loss of consciousness. Aspiration may be a hazard

EMERGENCY AND FIRST AID PROCEDURES

IF IN EYES: Flush eyes and under eyelids with plenty of cool water for at least 15 minutes. If irritation persists, obtain medical attention.

IF ON SKIN: Flush skin with water while removing contaminated clothing. Launder clothing separately before reuse. Wash skin with soap and water. If irritation persists, obtain medical attention.

IF SWALLOWED: Contact physician or poison control center immediately. Do not induce vomiting unless instructed by a physician or poison control center. Proper treatment is dependent upon condition of patient and amount ingested.

IF INHALED: Remove person to fresh air. If breathing has stopped, administer artificial respiration. Obtain medical attention.

VII - Spill or Leak Protection

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Ventilate area. Remove all sources of ignition. CO₂ may be used as a precautionary blanket. Contain spill. Soak up material with inert absorbent material and place in a labeled closed container for disposal.

WASTE DISPOSAL METHOD: Consult local environmental authorities. Dispose of cans in non-incinerated trash only.

VIII - Special Protection Information

RESPIRATORY PROTECTION: Use with adequate ventilation. Do not breathe vapors or mists. If recommended Exposure Limits are exceeded, wear a NIOSH approved respirator, following manufacturer's recommendations.

VENTILATION

LOCAL: Recommended

MECHANICAL: Not required

PROTECTIVE GLOVES: Chemical resistant.

EYE PROTECTION: Safety glasses or goggles.

OTHER PROTECTIVE EQUIPMENT: None.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store in a cool, dry place away from heat, sparks or open flame. Wash hands before eating or smoking. Do not store at temperatures above 120 F.

OTHER PRECAUTIONS: Keep out of reach of children. Do not puncture or incinerate container.

IX - Transportation Information (ground transportation only)

DOT ID NUMBER: None

DOT PROPER SHIPPING NAME: Consumer Commodity

DOT CLASS: ORM-D

DOT PACKING GROUP: None

The shipping information listed above applies only to non-bulk (< 119 gallons) containers of this product. This product may have more than one proper shipping name depending on packaging, product properties, & mode of shipment. If any alteration of packaging, product, or mode of transportation is further intended, different shipping names and labeling may apply.

REVISION DATE: June 5, 2007

Prepared by: Technical Dept.

DATE OF ISSUE: June 5, 2007

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