

**Material Safety Data Sheet**  
**Defense EF**

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**REVISION DATE:** 3/31/2014  
**CHEM-TEL:** 800-225-3924  
**PRODUCT NUMBER:** 5540

**SECTION I - IDENTIFICATION**

**PRODUCT NAME:** Defense EF  
**PRODUCT CODE:** 5540  
**PRODUCT USE:** Metal protectant

**SECTION II – COMPOSITION/HAZARDOUS INGREDIENTS**

HAZARDOUS INGREDIENT	CAS NUMBER	OSHA PEL	ACGIH TLV	PERCENT
Heptane	142-82-5	400 ppm	400 ppm	10-30%
Mineral Spirits	8052-41-3	500 ppm	100 ppm	30-60%
Propane/n-Butane	68476-86-8	N/A	1000 ppm	10-30%

**SECTION III – HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW:** **Flammable Aerosol!** Contents under pressure. Exposure to temperatures greater than 120°F can cause bursting. Keep away from heat, sparks, or open flame.

**ROUTES OF ENTRY:** Eyes, Ingestion, Inhalation, Skin

**EYES:** Causes irritation, burning, redness, tearing.

**INGESTION:** May cause gastrointestinal irritation, nausea, diarrhea, vomiting, abdominal cramps.

**INHALATION:** May cause irritation to the respiratory tract, nausea, vomiting.

**SKIN:** May cause mild irritation, localized defatting, repeated prolonged contact may cause allergic reaction in some individuals.

**MEDICAL CONDITION AGGRAVATED:** Preexisting disorders of skin, lung, and heart

**CHRONIC HEALTH HAZARDS:** None known

**CARCINOGENICITY:**

**OSHA:** No **ACGIH:** No **NTP:** No **IARC:** No **OTHER:** N/A

**SECTION IV - FIRST AID MEASURES**

**EYES:** Immediately flush with water for 15 - 20 minutes while holding eyelids open. Seek medical attention if irritation persists.

**INGESTION:** Rinse mouth with water. Do not induce vomiting unless directed by medical authority. Seek medical attention.

**INHALATION:** Move to fresh air. If breathing is difficult or unconscious, administer oxygen. If not breathing administer artificial respiration. Seek medical attention if irritation persists.

**SKIN:** Immediately wash with soap and water for 15 minutes. Remove contaminated clothing and shoes immediately. Seek medical attention if irritation develops.

**NOTE TO PHYSICIAN:** If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

**SECTION V – FIRE-FIGHTING MEASURES**

**FLASH POINT:** ND

**FLAMMABLE LIMITS IN AIR, (% BY VOLUME)** **UPPER:** 7.5 **LOWER:** 1.1

**EXTINGUISHING MEDIA:** Dry chemical, carbon dioxide, and alcohol foam.

**SPECIAL FIRE FIGHTING PROCEDURES:** Wear NIOSH approved Self Contained Breathing Apparatus with a full face piece operated in a positive pressure demand mode with full body protective clothing when fighting fires. Use water spray only to cool exposed containers.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** **FLAMMABLE.** Contents under pressure. Exposure to temperatures above 120 F may cause bursting. Keep away from heat, sparks, open flames and other sources of ignition. Cool containers with water spray. May develop flammable atmosphere in confined areas.

**HAZARDOUS COMBUSTION PRODUCTS:** Not determined

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**SECTION VI – ACCIDENTAL RELEASE MEASURES**

**SPILL:** Remove any source of ignition. Use non-sparking tools and equipment. Use absorbent on spill sweep to clean. Dispose in accordance with local, state and federal laws. Small releases may be wiped up with wiping material.

**WASTE DISPOSAL:** Dispose of in accordance with local, State and Federal regulations. Do not dump in sewers. Use sand or other non-combustible absorbent material to clean up spill and place in container for later disposal. Containers may contain hazardous residue.

**RCRA STATUS:** Product should be fully characterized prior to disposal (40 CFR 261).

**SECTION VII – HANDLING AND STORAGE**

**HANDLING AND STORAGE:** Store in a cool, dry area. Do not use or store near excessive heat or near open flame. Keep container tightly sealed when not in use.

**OTHER PRECAUTIONS:** Flammable vapors may collect in low lying areas.

**SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING CONTROLS / VENTILATION:** Normal, forced ventilation required. Local exhaust ventilation is generally preferred.

**RESPIRATORY PROTECTION:** Wear NIOSH/MSHA approved organic vapor respiratory protection if used in confined, poorly ventilated areas.

**PROTECTIVE CLOTHING:** Safety glasses and chemical resistant gloves are recommended.

**ADDITIONAL MEASURES:** Wash hands thoroughly after handling.

**SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** Hazy, Dark Brown Liquid

**ODOR:** Hydrocarbon odor

**PHYSICAL STATE:** Liquid

**BOILING POINT:** ND

**VAPOR PRESSURE (mm Hg):** 124

**VAPOR DENSITY (AIR=1):** > 2

**EVAPORATION RATE:** 5

**SPECIFIC GRAVITY (H<sub>2</sub>O=1):** 0.76

**SOLUBILITY IN WATER:** 0%

**VOLATILITY INCLUDING WATER (%):** > 80%

**VOLATILE ORGANIC COMPOUNDS (VOC):** 35%

**SECTION X – STABILITY AND REACTIVITY DATA**

**CHEMICAL STABILITY:** Stable

**CONDITIONS TO AVOID:** Temperatures greater than 120°F and sources of ignition.

**INCOMPATIBILITY:** some plastics

**HAZARDOUS DECOMPOSITION OR BY-PRODUCT:** None known

**HAZARDOUS POLYMERIZATION:** Will not occur

**SECTION XI – TOXICOLOGICAL INFORMATION**

**TOXICOLOGICAL INFORMATION:** Mineral Spirits - 8052-41-3 - Draize test, rabbit, eye: 500 mg/24H Moderate Heptane - 142-82-5 - Oral LD 50 Rat: 15,000 mg/kg; Inhalation LC 50 Rat: 103 g/m<sup>3</sup>, 4 h; Dermal LD 50 Rabbit: 2,000 mg/kg

**SECTION XII – ECOLOGICAL INFORMATION**

**ECOLOGICAL INFORMATION:** Not Available

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**SECTION XIII – DISPOSAL CONSIDERATIONS**

**WASTE DISPOSAL:** Dispose of in accordance with local, State and Federal regulations. Do not dump in sewers. Use sand or other non-combustible absorbent material to clean up spill and place in container for later disposal. Containers may contain hazardous residue.

**RCRA STATUS:** Product should be fully characterized prior to disposal (40 CFR 261).

**SECTION XIV - TRANSPORTATION INFORMATION**

**PROPER SHIPPING NAME:** Consumer Commodity; ORM-D

**PACKAGING GROUP:** N/A

**AIR SHIPMENT**

**PROPER SHIPPING NAME:** Aerosols, Flammable

**HAZARD CLASS/DIVISION:** 2.1

**SHIPPING BY WATER:**

**VESSEL (IMO/IMDG)**

**PROPER SHIPPING NAME:** Aerosols, Flammable

**HAZARD CLASS/DIVISION:** 2.1

**SECTION XV - REGULATORY INFORMATION**

**TSCA STATUS:** All Chemicals are listed or exempt.

**CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT):** None

**SARA 311/312 HAZARD CATEGORIES:** Fire Hazard

**SARA 313 REPORTABLE INGREDIENTS:** None

**STATE REGULATIONS:** California Proposition 65: None

**INTERNATIONAL REGULATIONS:** The components of this product are listed on the chemical inventories of the following countries: Australia, Canada, China, Europe (EINECS), Japan, Korea, Philippines.

**CANADA: WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) & (DSL):** Aliphatic Hydrocarbon - 8052-41-3 - B3 – Combustible liquid, D2B – Toxic Material.

**NFPA HEALTH:** 1

**NFPA FLAMMABILITY:** 3

**NFPA REACTIVITY:** 0

**NFPA OTHER:**

**HMIS HEALTH:** 1

**HMIS FLAMMABILITY:** 3

**HMIS REACTIVITY:** 0

**HMIS PROTECTION:** A

**SECTION XVI - ADDITIONAL INFORMATION**

**PREPARATION BY:** Jonathon Jarvis

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