

## MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet conforms to the requirements of ANSI Z400.1.  
THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD)  
IMPORTANT: Read this MSDS before handling & disposing of this product.  
Pass this information on to employees, customers, & users of this product.

## SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

PRODUCT IDENTITY: EF PRODUCTS FLUSH 488/489  
COMPANY IDENTITY: CHEMCENTRAL/DALLAS  
COMPANY ADDRESS: 3636 DAN MORTON DR.  
COMPANY CITY: DALLAS, TX 75236  
COMPANY PHONE: 1-972-709-0136  
CHEMTREC PHONE: 1-800-424-9300

## SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

CONTAINS: 65-75% ODORLESS MINERAL SPIRITS (64742-48-9) [265-200-4],  
20-30% D-LIMONENE (5989-27-5)  
Number in parentheses is CAS #, number in brackets is European EC #.

## SECTION 3. HAZARDS IDENTIFICATION

RISK STATEMENTS:  
R22 Harmful if swallowed.  
R65 Harmful: may cause lung damage if swallowed.  
SAFETY STATEMENTS:  
Not Applicable.

## SECTION 4. FIRST AID MEASURES

## EYE CONTACT:

For eyes, flush with plenty of water for 15 minutes & get medical attention.

## SKIN CONTACT:

In case of contact with skin immediately remove contaminated clothing.

Wash thoroughly with soap & water. Wash contaminated clothing before reuse.

## INHALATION:

After high vapor exposure, remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped give artificial respiration.

## SWALLOWING:

If swallowed, CALL A PHYSICIAN IMMEDIATELY! Do NOT induce vomiting. Have patient lie down & keep warm. Vomiting may lead to pneumonitis, which may be fatal.

## SECTION 5. FIRE FIGHTING MEASURES

## EXTINGUISHING MEDIA

NFPA Class B extinguishers(Carbon Dioxide or foam)for Class IIIA liquid fires.

## SPECIAL FIRE FIGHTING PROCEDURES

Water spray may be ineffective on fire but can protect fire-fighters & cool closed containers. Use fog nozzles if water is used.

Do not enter confined fire-space without full bunker gear.

(Helmet with face shield,bunker coats, gloves & rubber boots).

Use NIOSH approved positive-pressure self-contained breathing apparatus.

## UNUSUAL EXPLOSION AND FIRE PROCEDURES

## COMBUSTIBLE!

Keep container tightly closed.

Isolate from oxidizers, heat, & open flame.

Closed containers may explode if exposed to extreme heat.

Applying to hot surfaces requires special precautions.

Empty container very hazardous! Continue all label precautions!

## SECTION 6. ACCIDENTAL RELEASE MEASURES

## CONTAINMENT TECHNIQUES

Stop spill at source. Dike area & contain.

## CLEAN-UP PROCEDURES:

Clean up remainder with absorbent materials. Mop up & dispose of.

## SECTION 7. HANDLING AND STORAGE

## HANDLING

Isolate from oxidizers, heat, & open flame.

Use only with adequate ventilation. Avoid breathing of vapor or spray mist.

Avoid prolonged or repeated contact with skin.

Wear OSHA Standard goggles or face shield. Consult Safety Equipment Supplier.

Wear gloves, apron & footwear impervious to this material. Wash clothing before reuse.

Avoid free fall of liquid. Ground containers when transferring. Do not flame cut, braze, or weld. Empty container very hazardous! Continue all label precautions!

## STORAGE

Do not store above 49 C/120 F. Store large amounts in structures made for OSHA Class IIIA liquids

Keep container tightly closed

& upright when not in use to prevent leakage.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

## RESPIRATORY EXPOSURE CONTROLS

A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z86.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

## VENTILATION

LOCAL EXHAUST	: Necessary
MECHANICAL (GENERAL)	: Acceptable
SPECIAL	: None
OTHER	: None

## PERSONAL PROTECTIONS:

Wear OSHA Standard goggles or face shield. Consult Safety Equipment Supplier.

Wear gloves, apron & footwear impervious to this material. Wash clothing before reuse.

## WORK &amp; HYGIENIC PRACTICES:

Provide readily accessible eye wash stations & safety showers.

Wash at end of each workshift & before eating, smoking or using the toilet.

Promptly remove clothing that becomes contaminated. Destroy contaminated leather articles. Launder or discard contaminated clothing.

SECTION 9. PHYSICAL DATA

APPEARANCE : Liquid,Water-White  
ODOR : Lemon  
BOILING RANGE : 186 217 241 C / 368 424 466 F  
AUTO IGNITION TEMPERATURE : 260 C / 500 F (Lowest Component)  
LOWER FLAMMABLE LIMIT IN AIR (% by vol): .9  
FLASH POINT (TEST METHOD): 63 C / 147 F (TCC)  
FLAMMABILITY CLASSIFICATION: Class IIIA  
GRAVITY @ 68/68 F / 20/20 C :  
API : 48.1  
SPECIFIC GRAVITY (Water=1) : .788  
POUNDS/GALLON : 6.562  
VOC'S (>0.44 Lbs/Sq In) : 0.0 Vol. % / 0.0 g/L / 0.000 Lbs/Gal  
TOTAL VOC'S (TVOC) : 100.0 Vol. % / 787.8 g/L / 6.561 Lbs/Gal  
NONEXEMPT VOC'S (CVOC) : 75.0 Vol. % / 577.5 g/L / 4.810 Lbs/Gal  
HAZARDOUS AIR POLLUTANTS (HAPS) : 0.0 Wt. % / 0.0 g/L / 0.000 Lbs/Gal  
VAPOR PRESSURE (mm of Hg)@20 C 1.3  
NONEXEMPT VOC PARTIAL PRESSURE (mm of Hg @ 20 C) .6  
VAPOR DENSITY (air=1) : 5.0  
WATER ABSORPTION : Negligible  
REFRACTIVE INDEX : 1.436  
MIXED ANILINE POINT (Acid Insol): 67 C / 154 F

SECTION 10. STABILITY & REACTIVITY

STABILITY

Stable under normal conditions.

CONDITIONS TO AVOID

Isolate from oxidizers, heat, & open flame.

MATERIALS TO AVOID

Isolate from strong oxidizers such as permanganates,chromates & peroxides.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon Monoxide, Carbon Dioxide from burning.

HAZARDOUS POLYMERIZATION

Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

MATERIAL	CAS #	TWA (OSHA)	TLV (ACGIH)	HAP
Odorless Mineral Spirits	64742-48-9	500 ppm	100 ppm	No
d-Limonene	5989-27-5	None Known	50 ppm	No

This product contains no EPA Hazardous Air Pollutants (HAP) in amounts > 0.1%.

SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

MATERIAL	CAS #	CEILING	STEL (OSHA/ACGIH)
		None Known	None Known

ACUTE HAZARDS

EYE & SKIN CONTACT:

Primary irritation to skin, defatting, dermatitis.  
Primary irritation to eyes, redness, tearing, blurred vision.  
Liquid can cause eye irritation. Wash thoroughly after handling.

INHALATION:

Anesthetic. Irritates respiratory tract. Acute overexposure can cause serious nervous system depression. Vapor harmful.

SWALLOWING:

Harmful or fatal if swallowed.  
Swallowing can cause abdominal irritation, nausea, vomiting & diarrhea.

SUBCHRONIC HAZARDS/CONDITIONS AGGREGATED

CONDITIONS AGGREGATED

Persons with severe skin, liver or kidney problems should avoid use.

CHRONIC HAZARDS

CANCER, REPRODUCTIVE & OTHER CHRONIC HAZARDS:

This product has no carcinogens listed by IARC, NTP, NIOSH, OSHA or ACGIH, as of this date, greater or equal to 0.1%.

## SECTION 12. ECOLOGICAL INFORMATION

## MAMMALIAN INFORMATION:

No mammalian information is available on this product.

## AQUATIC ANIMAL INFORMATION:

No aquatic environmental information is available on this product.

## MOBILITY

This material is a mobile liquid.

## DEGRADABILITY

This product is partially biodegradable.

## ACCUMULATION

This product does not accumulate or biomagnify in the environment.

## SECTION 13. DISPOSAL CONSIDERATIONS

Recycle / dispose of observing national, regional, state, provincial and local health, safety & pollution laws.

If questions exist, contact the appropriate agencies.

## SECTION 14. TRANSPORT INFORMATION

DOT SHIPPING NAME: BULK: Paint Related Material, Combustible liquid, UN1263, PG-III  
Combustible liquid. Not DOT regulated on trucks in containers of < 119 gallons.

DRUM LABEL: None (Combustible Liquid)

IATA / ICAO: Paint Related Material (UN1263)

IMO / IMDG: Paint Related Material (UN1263)

EMERGENCY RESPONSE GUIDEBOOK NUMBER: 128

## SECTION 15. REGULATORY INFORMATION

## EPA REGULATION:

SARA SECTION 311/312 HAZARDS: Acute Health, Fire

All components of this product are on the TSCA list.

This material contains no known products restricted under SARA Title III, Section 313 in amounts greater or equal to 1%.

## SECTION 15. REGULATORY INFORMATION (CONTINUED)

## INTERNATIONAL REGULATIONS

The components of this product are listed on the chemical inventories of the following countries:

Australia, Canada, Europe (EINECS), Japan, Korea, United Kingdom.

## SECTION 16. OTHER INFORMATION

## HAZARD RATINGS:

HEALTH (NFPA): 0, HEALTH (HMIS): 1, FLAMMABILITY: 2, REACTIVITY: 0

This information is intended solely for the use of individuals trained in the NFPA & HMIS hazard rating systems.

## EMPLOYEE TRAINING

Employees should be made aware of all hazards of this material (as stated in this MSDS) before handling it.

## NOTICE

The supplier disclaims all expressed or implied warranties of merchantability or fitness for a specific use, with respect to the product or the information provided herein, except for conformation to contracted specifications.

All information appearing herein is based upon data obtained from manufacturers and/or recognized technical sources. While the information is believed to be accurate, we make no representations as to its accuracy or sufficiency.

Conditions of use are beyond our control, and therefore users are responsible for verifying the data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product. Users also assume all risks in regards to the publication or use of, or reliance upon, information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or process.

Unless updated, this Material Safety Data Sheet is valid until 02/18/2008.