



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name EF- 2000 Series Part B
Version # 01
Revision date 11-17-2011
CAS # Mixture
Manufacturer
Manufacturer Ergon Armor
Division Memphis
Address PO Box 1639
Jackson, MS 39215-1639
Contact Name Mary Ellen Snow
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Hours of Operation 8:00AM - 5:00PM
ERGON General Assistance 1 (800) 222 7122
CHEMTREC North America 1 (800) 424 9300 International 1 (703) 527 3887

2. Hazards Identification

Emergency overview Corrosive.
OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects
Skin May cause burns.
Inhalation Corrosive. May cause damage to mucous membranes in nose, throat, lungs and bronchial system.
Ingestion Harmful if swallowed. May have a corrosive effect on the digestive canal.
Potential environmental effects May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Hazardous components	CAS #	Percent
4-METHYL-2-PENTANONE	108-10-1	10 - 20
Non-hazardous components	CAS #	Percent
MERCAPTAN-TERMINATED POLYMER	101359-87-9	10 - 20
Other components below reportable levels		60 - 65

4. First Aid Measures

First aid procedures
Eye contact Immediately flush eyes with plenty of water for at least 15 minutes.
Ingestion Rinse mouth. Do not induce vomiting. Get medical attention.
General advice If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties If heated, volume and pressure increases strongly, resulting in explosion of container.
Extinguishing media
Suitable extinguishing media Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).
Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Protective equipment and precautions for firefighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

Fire fighting equipment/instructions

Water runoff can cause environmental damage. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Specific methods

Use water spray to cool unopened containers.

6. Accidental Release Measures

Personal precautions

Keep people away from and upwind of spill/leak. Keep out of low areas. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for containment

Stop the flow of material, if this is without risk. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up

Should not be released into the environment.

Large Spills: Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water.

Never return spills in original containers for re-use.

7. Handling and Storage

Handling

Wear appropriate personal protective equipment. Avoid eating, drinking and smoking when using the product. Wash hands after handling. Observe good industrial hygiene practices.

Storage

Do not store this material in open or unlabeled containers. Store in a cool, dry place out of direct sunlight. Keep container in a well-ventilated place.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components

Type

Value

4-METHYL-2-PENTANONE
(108-10-1)

STEL

75 ppm

TWA

20 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components

Type

Value

4-METHYL-2-PENTANONE
(108-10-1)

PEL

410 mg/m³

100 ppm

Personal protective equipment

Eye / face protection

Wear goggles/face shield.

Skin protection

Use protective gloves, goggles and suitable protective clothing.

Respiratory protection

If ventilation is not sufficient to effectively prevent buildup of aerosols or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

General hygiene considerations

When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance

Liquid.

Physical state

Liquid.

Form

Liquid.

Color

Light yellow.

Odor	Sulphurous.
Odor threshold	Not available.
pH	Basic
Vapor pressure	Not available.
Vapor density	Not available.
Boiling point	404.6 - 428 °F (207 - 220 °C)
Melting point/Freezing point	Not available.
Solubility (water)	Not available.
Specific gravity	Not available.
Relative density	Not available.
Flash point	> 212 °F (> 100 °C)
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	Not available.
Other data	
Density	980 kg/m ³ estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under normal temperature conditions.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong oxidizing agents. Acids. Moist air.
Hazardous decomposition products	At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

11. Toxicological Information

Toxicological data

Product

EF- 2000 Series Part B (Mixture)

Test Results

Acute Dermal LD50 Rabbit: 88856.8047 mg/kg estimated
 Acute Inhalation LC50 Rat: 45.5391 mg/l estimated
 Acute Oral LD50 Rat: 11551.3838 mg/kg estimated
 Acute Other LD50 Guinea pig: 5.1037 ml/kg estimated
 Acute Other LD50 Mouse: 3276.5945 mg/kg estimated
 Acute Other LD50 Rat: 6.331 ml/kg estimated

Components

4-METHYL-2-PENTANONE (108-10-1)

Test Results

Acute Dermal LD50 Rabbit: > 16000 mg/kg
 Acute Inhalation LC50 Rat: 8.2 mg/l 4 Hours
 Acute Oral LD50 Rat: 2080 mg/kg
 Acute Other LD50 Guinea pig: 0.919 ml/kg
 Acute Other LD50 Mouse: 590 mg/kg
 Acute Other LD50 Rat: 1.14 ml/kg

Carcinogenicity

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

ACGIH Carcinogens

4-METHYL-2-PENTANONE (CAS 108-10-1)

A3 Confirmed animal carcinogen with unknown relevance to humans.

Further information

Acute dermal irritation/corrosion.

12. Ecological Information

Ecotoxicological data

Product

EF- 2000 Series Part B (Mixture)

Test Results

LC50 Fish: 2789.7334 mg/l 96 hours estimated

Components	Test Results
4-METHYL-2-PENTANONE (108-10-1)	LC50 Fathead minnow (Pimephales promelas): 492 - 593 mg/l 96 hours

* Estimates for product may be based on additional component data not shown.

Ecotoxicity	Contains a substance which causes risk of hazardous effects to the environment
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal
Persistence and degradability	Not available.

13. Disposal Considerations

Disposal instructions	Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.
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14. Transport Information

DOT

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200. CERCLA/SARA Hazardous Substances - Not applicable.
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Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2))

Not regulated

DEA Essential Chemical Code Number

4-METHYL-2-PENTANONE (CAS 108-10-1) 6715

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

4-METHYL-2-PENTANONE (CAS 108-10-1) 35 %WV

DEA Exempt Chemical Mixtures Code Number

4-METHYL-2-PENTANONE (CAS 108-10-1) 6715

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

4-METHYL-2-PENTANONE (CAS 108-10-1) 1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

4-METHYL-2-PENTANONE (CAS 108-10-1) Listed.

CERCLA (Superfund) reportable quantity

4-METHYL-2-PENTANONE: 5000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
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Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - New Jersey RTK - Substances: Listed substance

4-METHYL-2-PENTANONE (CAS 108-10-1) Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

4-METHYL-2-PENTANONE (CAS 108-10-1) Listed.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings

Health: 2*
Flammability: 1
Physical hazard: 0

NFPA ratings

Health: 2
Flammability: 1
Instability: 0

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Issue date

Not available.

This data sheet contains changes from the previous version in section(s):

Product and Company Identification: Product and Company Identification
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties