MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**SF-1500 Series Part B**
Version #	01
Revision date	12-12-2011
CAS #	Mixture
Manufacturer	
Manufacturer	Ergon Armor
Division	Memphis
Address	PO Box 1639 Jackson, MS 39215-1639
Contact Name	Mary Ellen Snow
E-Mail	mary.snow@ergon.com
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. Causes skin and eye burns.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Causes eye burns. Risk of serious damage to eyes. Do not get this material in contact with eyes.
Skin	Causes skin burns. Do not get this material in contact with skin.
Inhalation	Causes burns. Prolonged inhalation may be harmful. Do not breathe dust/fume/gas/mist/vapors/spray.
Ingestion	Components of the product may be absorbed into the body by ingestion. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract. Do not ingest.
Target organs	Eyes. Liver. RESPIRATORY SYSTEM. Skin. Kidneys.
Signs and symptoms	Edema. Irritation of eyes and mucous membranes. Irritating to mouth, throat, and stomach.

3. Composition / Information on Ingredients

Hazardous components	**CAS #**	**Percent**
3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE	2855-13-2	10 - 25
BENZYL ALCOHOL	100-51-6	2.5 - 10
[3-(aminoethyl)phenyl]methanamine	1477-55-0	0 - 5
PHENOL	108-95-2	0 - 5
TRIENTINE	112-24-3	0 - 5
Non-hazardous components	**CAS #**	**Percent**
PHENOL, 4-NONYL-, BRANCHED	84852-15-3	10 - 25
FORMALDEHYDE, POLYMER WITH N1,N2-BIS(2-AMINOETHYL)-1 ,2-ETHANEDIAMINE AND PHENOL	32610-77-8	0 - 17
Other components below reportable levels		20 - 35

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Skin contact	Take off immediately all contaminated clothing. Immediately flush skin with plenty of water. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse. Get medical attention if symptoms occur.
Inhalation	Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Ingestion	Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Notes to physician	In case of shortness of breath, give oxygen. Symptoms may be delayed.
General advice	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Extinguishing media

Suitable extinguishing media	Avoid using a direct stream of water. Water fog. Dry powder. Carbon dioxide (CO2). Alcohol foam.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Specific hazards arising from the chemical	Fire may produce irritating, corrosive and/or toxic gases.
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	ALWAYS stay away from tanks engulfed in flame. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out.
Specific methods	In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

6. Accidental Release Measures

Personal precautions	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	Dike the spilled material, where this is possible. 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	Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Avoid release to the environment.

Storage The pressure in sealed containers can increase under the influence of heat. Keep away from hea and sources of ignition. Store in a well-ventilated place. Keep container tightly closed. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
[3-(aminoethyl)phenyl]met hanamine (1477-55-0)	Ceiling	0.1 mg/m3
PHENOL (108-95-2)	TWA	5 ppm

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

Components	Type	Value
PHENOL (108-95-2)	PEL	19 mg/m3 5 ppm

Exposure guidelines

US ACGIH Threshold Limit Values: Skin designation

[3-(aminoethyl)phenyl]methanamine (CAS 1477-55-0) Can be absorbed through the skin.
PHENOL (CAS 108-95-2) Can be absorbed through the skin.

US OSHA Table Z-1: Skin designation

PHENOL (CAS 108-95-2) Can be absorbed through the skin.

Engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Eye / face protection Do not get in eyes. Chemical goggles are recommended.

Skin protection Do not get this material in contact with skin. Do not get this material on clothing. Structural firefighters protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations. Chemical resistant gloves.

Respiratory protection Do not breathe dust/fume/gas/mist/vapors/spray. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

General hygiene considerations Do not get in eyes. Do not get this material in contact with skin. Do not get this material on clothing. When using, do not eat, drink or smoke. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	Liquid.
Physical state	Liquid.
Form	Liquid.
Color	Colourless to light yellow.
Odor	Amine-like.
Odor threshold	Not available.
pH	Alkaline
Vapor pressure	13.3 Pa
Vapor density	Not available.
Boiling point	> 476.6 °F (> 247 °C)
Melting point/Freezing point	Not available.
Solubility (water)	Partially soluble
Specific gravity	1.1
Relative density	Not available.
Flash point	> 199.4 °F (> 93 °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 998 kg/m³

10. Chemical Stability & Reactivity Information

Chemical stability Stable at normal conditions.

Conditions to avoid Avoid exposure to high temperatures or direct sunlight. Contact with incompatible materials. Contact with acids. Contact with peroxides.

Incompatible materials Strong acids, alkalies and oxidizing agents. Peroxides.

Hazardous decomposition products If product is burned hazardous gases such as oxides of carbon and nitrogen and various hydrocarbons may be produced.

Possibility of hazardous reactions Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Product	Test Results
SF-1500 Series Part B (Mixture)	Acute Dermal LD50 Rabbit: 10862.6201 mg/kg estimated Acute Dermal LD50 Rat: 16725 mg/kg estimated Acute Inhalation LC100 Rat: 2222.2222 mg/l estimated Acute Inhalation LC50 Rat: 11111.1113 mg/l estimated Acute Oral LD50 Cat: 2.5 g/kg estimated Acute Oral LD50 Dog: 12.5 g/kg estimated Acute Oral LD50 Mouse: 4875.4287 mg/kg estimated Acute Oral LD50 Rabbit: 21555.5547 mg/kg estimated Acute Oral LD50 Rat: 5016.21 mg/kg estimated Acute Other LD50 Guinea pig: 4444.4443 mg/kg estimated Acute Other LD50 Mouse: 1575 mg/kg estimated Acute Other LD50 Rat: 560.2022 mg/kg estimated

Components	Test Results
BENZYL ALCOHOL (100-51-6)	Acute Dermal LD50 Rabbit: 2000 mg/kg Acute Inhalation LC100 Rat: 200 - 300 mg/l 8 Hours Acute Inhalation LC50 Rat: 1000 mg/l 8 Hours Acute Oral LD50 Mouse: 1580 mg/kg Acute Oral LD50 Rabbit: 1940 mg/kg Acute Oral LD50 Rat: 1230 - 3100 mg/kg Acute Other LD50 Guinea pig: > 400 mg/kg Acute Other LD50 Mouse: 324 mg/kg Acute Other LD50 Rat: 53 mg/kg
PHENOL (108-95-2)	Acute Dermal LD50 Rabbit: 850 mg/kg Acute Dermal LD50 Rat: 669 mg/kg Acute Oral LD50 Cat: 0.1 g/kg Acute Oral LD50 Dog: 0.5 g/kg Acute Oral LD50 Mouse: 270 mg/kg Acute Oral LD50 Rat: 317 mg/kg Acute Other LD50 Mouse: 112 mg/kg Acute Other LD50 Rat: 460 mg/kg

Acute effects Causes burns.

Local effects May irritate eyes and skin.

Chronic effects Hazardous by OSHA criteria. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

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

ACGIH Carcinogens

PHENOL (CAS 108-95-2) A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

PHENOL (CAS 108-95-2) 3 Not classifiable as to carcinogenicity to humans.

Skin corrosion/irritation Hazardous by OSHA criteria.

Further information Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Product	Test Results
SF-1500 Series Part B (Mixture)	EC50 Daphnia: 0.189 mg/l 48 hours estimated LC50 Fish: 0.6178 mg/l 96 hours estimated

Components	Test Results
BENZYL ALCOHOL (100-51-6)	LC50 Bluegill (Lepomis macrochirus): 10 mg/l 96 hours
PHENOL (108-95-2)	EC50 Water flea (Daphnia magna): 4.2 mg/l 48 hours LC50 Carp (Cyprinus carpio): 0.0018 mg/l 96 hours
3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE (2855-13-2)	EC50 Water flea (Daphnia magna): 14.6 - 21.5 mg/l 48 hours
PHENOL, 4-NONYL-, BRANCHED (84852-15-3)	EC50 Clam (Mulinia lateralis): 0.0379 mg/l 48 hours LC50 Winter flounder (Pleuronectes americanus): 0.017 mg/l 96 hours

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

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.

14. Transport Information

DOT

Basic shipping requirements:

UN number UN2735

Proper shipping name Polyamines, liquid, corrosive, n.o.s. (Isophoronediamine)

Hazard class 8

Packing group III

Environmental hazards

Marine pollutant No

Additional information:

Special provisions IB3, T4, TP1

Packaging exceptions 154

Packaging non bulk 203

Packaging bulk 241

ERG number 153

DOT

15. Regulatory Information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

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

Not regulated

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

Not regulated

DEA Exempt Chemical Mixtures Code Number

Not regulated

US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Spill: Reportable quantity

PHENOL (CAS 108-95-2) 1000 LBS

US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Substance: Threshold planning quantity, lower value

PHENOL (CAS 108-95-2) 500 LBS

US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Substance: Threshold planning quantity, upper value

PHENOL (CAS 108-95-2) 10000 LBS

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

PHENOL (CAS 108-95-2) 1.0 %

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

PHENOL (CAS 108-95-2) Listed.

CERCLA (Superfund) reportable quantity

PHENOL: 1000

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

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)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
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

[3-(aminoethyl)phenyl]methanamine (CAS 1477-55-0)	Listed.
3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE (CAS 2855-13-2)	Listed.
PHENOL (CAS 108-95-2)	Listed.
PHENOL, 4-NONYL-, BRANCHED (CAS 84852-15-3)	Listed.
TRIENTINE (CAS 112-24-3)	Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

[3-(aminoethyl)phenyl]methanamine (CAS 1477-55-0)	Listed.
BENZYL ALCOHOL (CAS 100-51-6)	Listed.
PHENOL (CAS 108-95-2)	Listed.
TRIENTINE (CAS 112-24-3)	Listed.

16. Other Information

Further information

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

HMIS® ratings

Health: 3*
Flammability: 1
Physical hazard: 0

NFPA ratings

Health: 3
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
Transport Information: Material Transportation Information
Regulatory Information: United States