



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name RI80 B
Version # 00
Revision date 11-22-2010
CAS # Mixture
Manufacturer Ergon Armor
Division Memphis
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 Jackson, MS 39215-1639
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2. Hazards Identification

Emergency overview DANGER
 Combustible liquid and vapor.
 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. May cause irritation of respiratory tract. Prolonged inhalation may be harmful. Do not breathe dust/fume/gas/mist/vapors/spray.
Ingestion Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract. Do not ingest.
Target organs Cardiac. Eyes. RESPIRATORY SYSTEM.
Signs and symptoms Upper respiratory tract irritation. Irritation of nose and throat. Irritation of eyes and mucous membranes.
Potential environmental effects May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Hazardous components	CAS #	Percent
MXDA	1477-55-0	1 - 3
Para-tert-butylphenol	98-54-4	0 - 10
BENZYL ALCOHOL	100-51-6	5 - 25
TALC (MG3H2(SIO3)4)	14807-96-6	5 - 25
FELDSPAR	68476-25-5	5 - 25
BARIUM SULFATE	7727-43-7	25 - 45
Non-hazardous components	CAS #	Percent
ALKYLATED PHENOLIC POLYAMINE	68413-28-5	0 - 10

TRIMETHYLHEXAMETHYLENE DIAMINE	25620-58-0	0 - 10
3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE	2855-13-2	0 - 10
Other components below reportable levels		5 - 25

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. Get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.
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. Get medical attention immediately.
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. Keep victim warm.

General advice

Immediate medical attention is required. In case of shortness of breath, give oxygen. Keep victim warm. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flammable properties

Combustible by OSHA criteria. NFPA Rating Fire = 2. Materials that must be moderately heated or exposed to relative high ambient temperatures before ignition can occur. Heat may cause the containers to explode. Runoff to sewer may cause fire or explosion hazard.

Extinguishing media

Suitable extinguishing media Water. Foam. Dry powder. Carbon dioxide (CO₂).

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.

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.

Hazardous combustion products

May include oxides of nitrogen.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personnel away. Keep upwind. Keep out of low areas. Keep people away from and upwind of spill/leak. 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

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. 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 handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. All equipment used when handling the product must be grounded. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Wash thoroughly after handling. Avoid release to the environment.

Storage

The pressure in sealed containers can increase under the influence of heat. Keep away from heat and sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a well-ventilated place. Keep container tightly closed. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components

Components	Type	Value	Form
BARIUM SULFATE (7727-43-7)	TWA	10.0000 mg/m ³	
MXDA (1477-55-0)	TWA	0.1000 mg/m ³	
TALC (MG3H ₂ (SIO ₃) ₄) (14807-96-6)	TWA	2.0000 mg/m ³	Respirable fraction.

U.S. - OSHA

Components

Components	Type	Value	Form
BARIUM SULFATE (7727-43-7)	PEL	5.0000 mg/m ³	Respirable fraction.
		15.0000 mg/m ³	Total dust.
MXDA (1477-55-0)	Ceiling	0.1000 mg/m ³	
TALC (MG3H ₂ (SIO ₃) ₄) (14807-96-6)	TWA	0.1000 mg/m ³	Respirable.
		0.3000 mg/m ³	Total dust.
		2.4000 mppcf	Respirable.
		20.0000 mppcf	

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. Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection. 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. Wear positive pressure self-contained breathing apparatus (SCBA).

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

Not available.

Color

Not available.

Odor

Not available.

Odor threshold

Not available.

Physical state

Liquid.

Form

Liquid.

pH	Not available.
Melting point	5 °F (-15.2 °C) estimated
Freezing point	5 °F (-15.2 °C) estimated
Boiling point	199.4 °F (93.3333 °C) estimated
Flash point	199.4 °F (93 °C) estimated
Evaporation rate	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	0.0743 hPa estimated
Vapor density	Not available.
Specific gravity	0.6734 estimated
Relative density	Not available.
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	816.8 °F (436 °C) estimated
Decomposition temperature	Not available.
VOC	10.9779 % estimated
Percent volatile	14.1404 % estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of ignition.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Aluminum. Phosphorus. Alkaline metals. Amines. Peroxides. Isocyanates. Alcohols. Phenols. Cresol.
Hazardous decomposition products	Irritants. Toxic gas. Sulfuric acid. Nitrogen oxides (NOx). Sulfur oxides.

11. Toxicological Information

Toxicological data

Product

RI80 B (Mixture)

Test Results

Acute Dermal LD50 Rabbit: 14022 mg/kg estimated
 Acute Inhalation LC100 Rat: 1521 mg/l estimated
 Acute Inhalation LC50 Rat: 7606 mg/l estimated
 Acute Oral LD50 Mouse: 12008 mg/kg estimated
 Acute Oral LD50 Rabbit: 14755 mg/kg estimated
 Acute Oral LD50 Rat: 8729 mg/kg estimated
 Acute Other LD50 Guinea pig: 3042 mg/kg estimated
 Acute Other LD50 Mouse: 2433 mg/kg estimated

Components

BENZYL ALCOHOL (100-51-6)

Test Results

Acute Dermal LD50 Guinea pig: <= 5 ml/kg
 Acute Dermal LD50 Rabbit: 2000 mg/kg
 Acute Inhalation LC100 Rat: 200 - 300 mg/l 8.00 Hours
 Acute Inhalation LC50 Rat: 1000 mg/l 8.00 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

Components

BENZYL ALCOHOL (100-51-6)

Test Results

Acute Other LD50 Mouse: <= 0.499999 ml/kg

Acute Other LD50 Rat: 53 mg/kg

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

Sensitization

US ACGIH Threshold Limit Values: Skin designation

MXDA (CAS 1477-55-0)

Can be absorbed through the skin.

Acute effects

Causes burns.

Chronic effects

Hazardous by OSHA criteria. Prolonged inhalation may be harmful.

Carcinogenicity

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

ACGIH Carcinogens

BARIUM SULFATE (CAS 7727-43-7)

A4 Not classifiable as a human carcinogen.

TALC (MG3H2(SIO3)4) (CAS 14807-96-6)

A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

TALC (MG3H2(SIO3)4) (CAS 14807-96-6)

2B Possibly carcinogenic to humans.

3 Not classifiable as to carcinogenicity to humans.

Skin corrosion/irritation

Hazardous by OSHA criteria.

12. Ecological Information

Ecotoxicological data

Product

RI80 B (Mixture)

Test Results

EC50 Daphnia: 9.12793 mg/l 48.00 hours estimated

LC50 Fish: 21.11 mg/l 96.00 hours estimated

Components

BENZYL ALCOHOL (100-51-6)

LC50 Bluegill (Lepomis macrochirus): 10 mg/l 96.00 Hours

3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE (2855-13-2)

EC50 Water flea (Daphnia magna): 14.6 - 21.5 mg/l 48.00 Hours

BARIUM SULFATE (7727-43-7)

EC50 Tubificid worm (Tubifex tubifex): 28.61 - 38.03 mg/l 48.00 hours

Para-tert-butylphenol (98-54-4)

EC50 Water flea (Daphnia magna): 3.4 - 4.5 mg/l 48.00 hours

LC50 Fathead minnow (Pimephales promelas): 4.71 - 5.62 mg/l 96.00 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

Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

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.

All components are on the U.S. EPA TSCA Inventory List.

CERCLA (Superfund) reportable quantity

BARIUM SULFATE: 1000.0000

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
 Yes

Clean Water Act (CWA)
 Hazardous substance

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)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
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)	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 - Pennsylvania RTK - Hazardous Substances: Listed substance

BARIUM SULFATE (CAS 7727-43-7)	Listed.
BENZYL ALCOHOL (CAS 100-51-6)	Listed.
MXDA (CAS 1477-55-0)	Listed.
TALC (MG3H2(SIO3)4) (CAS 14807-96-6)	Listed.

16. Other Information

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

HMIS® ratings
 Health: 3*
 Flammability: 2
 Physical hazard: 0

NFPA ratings
 Health: 3
 Flammability: 2
 Instability: 0

Issue date
 11-22-2010