| | |
|---|---|
| Health | 1 |
| Fire | 3 |
| Reactivity | 0 |
| Personal Protection | G |

# Material Safety Data Sheet
# Stone Armor

## Section 1: Chemical Product and Company Identification

| | |
|---|---|
| Product Name<br>Stone Armor | Contact Information<br>Advanced Armor, Inc<br>505 82nd Street<br>Lubbock, TX 79404<br>Sales: 1-806-778-8979<br>Order Online: www.advancedarmor.com |
| Catalog Codes<br>SLH2335, SLH2032, SLX1075, SLX1129, SLX1042, SLX1096 | CHEMTREC (24 Hour Emergency Telephone)<br>1-800-424-9300 |
| CAS #<br>110-54-3; 1330-20-7 | International CHEMTREC<br>1-703-527-3887 |
| RTECS<br>MN9275000; ZE100000 | For Non-Emergency Assistance<br>1-806-778-8979 |
| TSCA<br>TSCA 8(b) inventory: Hexane; Xylene | |
| CL #<br>Not Applicable | |
| Synonym | |
| Chemical Name<br>Hexane; Xylene | |
| Chemical Formula<br>C6-H14; C6H4(CH3)2 | |

## Section 2: Composition and Information on Ingredients

**Composition**

| Name | CAS # | % by Weight |
|---|---|---|
| Hexanes | 110-54-3 | 80% |
| Xylene | 1330-20-7 | 10% |
| Proprietary additives | | 10% |

**Toxicological Data on Ingredients**

Hexane: ORAL (LD50). Acute: 25000 mg/kg [Rat]. 2119 mg/kg [Mouse]. DERMAL (LD50). Acute: &qt: 1700 mg/kg [Rabbit]

## Section 3: Hazards Identification

**Potential Acute Health Effects**

Hazardous in case of skin contact (permeator), ingestion, or inhalation. Slightly hazardous in case of skin contact (irritant) of eye contact (irritant).

**Potential Chronic Health Effects**

CARCINOGENIC EFFECTS: 3 (Not classifiable for human) by IARC. MUTAGENIC for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood, kidneys, liver, mucous membranes, bone marrow, or central nervous system. Repeated or prolonged exposure to the substance can product target organ damage.

## Section 4: First Aid Measures

**Eye Contact**

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention if irritation occurs.

**Skin Contact**

In case of contact, immediately flush the skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Seek medical attention.

**Serious Skin Contact**

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

**Inhalation**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

**Serious Inhalation**

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

**Ingestion**

Do NOT induce vomiting unless direction to do so by a medical professional. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt, or waistband. Seek medical attention if symptoms appear.

**Serious Ingestion**

Not available

## Section 5: Fire and Explosion Data

**Flammability of the Product**
Flammable

**Auto-Ignition Temperature**
279°C (534°F)

**Flash Points**
CLOSED CUP: -27.8°C (-18°F). (TAG)

**Flammable Limits**
LOWER: 1.1%; UPPER: 7.4%

**Products of Combustion**
These products are carbon oxides (CO, CO2)

**Fire Hazards in Presence of Various Substances**
Highly flammable in presence of open flames and sparks of heat. Non-flammable in presence of shocks.

**Explosion Hazards in Presence of Various Substances**
Risks of explosion of the product in presence of mechanical impact: not available. Slightly explosive in presence of open flames and sparks of heat. Risk of explosion of the product in presence of static discharge.

**Fire Fighting Media and Instructions**
Flammable liquid insoluble in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray, or fog. Cool containing vessels with water jet in order to prevent pressure build-up, auto ignition or explosion.

**Special Rmearks on Fire Hazards**
Extremely flammable liquid and vapor. Vapor may cause flash fire.

**Special Remarks on Explosion Hazards**
Vapors may form explosive mixtures with air. Containers may explode when heated. May polymerize explosively when heated. At attempt to chlorinate xylene with 1, 3-Dichloro-5, 5-dimethyl-2, 4-imidazolidindione (dichlorohydrantoin) caused a violent explosion.

## Section 6: Accidental Release Measures

**Small Spill**
Absorb with an inert material and put the spilled material in an appropriate waste disposal.

**Large Spill**
Flammable liquid insoluble in water. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand, or other non-combustible material. Do not get water inside of the container. Do not touch spilled material. Prevent entry into sewers,

basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

**Precautions**

Keep locked up and away from heat and sources of ignition. Ground all equipment containing material. Do not ingest or breathe the gas/fumes/vapors/spray. Avoid contact with the skin. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical attention immediately and show the container or label. Avoid contact with the skin and eyes. Keep away from incompatibles such as oxidizing agents.

**Storage**

Store in a segregated and approved area. Keep the container in a cool, well-ventilated area. Keep the container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection**

Use safety glasses, lab coat, and vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves (impervious).

**Personal Protection in Case of Large Spill**

Splash goggles, full suit, vapor respirator, boots, and gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient. Consult a specialist BEFORE handling this product.

**Exposure Limits**

TWA: 500 (ppm) from OSHA (PEL) [United States] inhalation. TWA: 1800 (mg/m3) from OSHA (PEL) [United States] inhalation. TWA: 176 (mg/m3) from ACGIH (TLV) [United States] skin. TWA: 50 (ppm) from ACGIH (TLV) [United States] skin. TWA: 500. STEL: 1000 (ppm) from ACGIH (TLV) [United States] inhalation. TWA: 1760. STEL: 3500 (mg/m3) from ACGIH (TLV) [United States] inhalation. Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical State and Appearance**
Liquid

**Odor**
Petroleum-like (slight) sweet

**Taste**
Not Available

**Molecular Weight**
86.18 g/mole

**Color**
Clear/colorless

**pH (1% sol/water)**
Not applicable

**Boiling Point**
54°C (130°F)

**Melting Point**
Not Available

**Critical Temperature**
Not Available

**Specific Gravity**
Not Available

**Vapor Pressure**
70°F-1.8 psi
100°F-5.4 psi

**Vapor Density**
2.97 (air=1)

**Percent Volatility**
93.362%

**Odor Threshold**
130 ppm

**Water/Oil Distribution Coefficient**
The product is more soluble in oil; log(oil/water)=3.9

**Iconicity (in water)**
Not Available

**Dispersion Properties**
See solubility in water, diethyl ether, acetone

**Solubility**
Soluble in diethyl ether, or acetone. Insoluble in cold or hot water. Miscible with absolute alcohol, ether and many other organic liquids

## Section 10: Stability and Reactivity Data

**Stability**
The product is stable

**Instability Temperature**
Not available

**Conditions of Instability**
Heat, ignition sources, incompatibles

**Incompatibility with Various Substances**
Reactive with oxidizing agents, acids.

**Corrosivity**
Non-corrosive in presence of glass

**Special Remarks on Reactivity**
Can react vigorously with strong oxidizers. Store away from acetic acid, nitric acid, chlorine, bromine and fluorine

**Special Remarks on Corrosivity**
Not Available

**Polymerization**
Will not occur

## Section 11: Toxicological Information

Long term toxicological studies have not been conducted for this product. The following information is available for components of this product.
**Acute Effects**

| Component | Test | Result | Route | Species |
|---|---|---|---|---|
| n-Hexane | LD50 | 25000 mg/kg | Oral | Rat |
| n-Hexane | LC50 | 48000 ppm/4H | Inhalation | Rat |
| Xylene | LD50 | 4300 mg/kg | Oral | Rat |
| Xylene | LC50 | 5000 ppm/4H | Inhalation | Rat |

## Section 12: Ecological Information

**Exotoxicity**
Not available

**BOD5 and COD**
Not available

**Products of Biodegradation**
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation**
The product itself and its products of degradation are not toxic

**Special Remarks on the Products of Biodegradation**
Not available

## Section 13: Disposal Considerations

**Waste Disposal**
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14: Transport Information

**DOT Classification**
CLASS 3: Flammable liquid

**Identification**
Hexane UNNA: 1208 PG: II
Xylene UNNA: 137 PG: III

**Special Provisions for Transport**
Not available

## Section 15: Other Regulatory Information

**Federal and State Regulations**
Connecticut hazardous material survey.: Hexanes Illinois toxic substances disclosure to employee act: Hexanes Illinois chemical safety act: Hexanes New York release reporting list: Hexanes Rhode Island RTK hazardous substances: Hexanes Pennsylvania RTK: Hexanes Florida: Hexanes Minnesota: Hexanes Massachusetts RTK: Hexanes Massachusetts spill list: Hexanes New Jersey: Hexanes New Jersey spill list: Hexanes Louisiana spill reporting: Hexanes TSCA 8(b) inventory: Hexanes SARA 313 toxic chemical notification and release

reporting: Hexanes CERCLA: Hazardous substances.: Hexanes:
5000 lbs. (2268 kg) Connecticut hazardous material survey.: Xylenes Illinois chemical safety act: Xylenes New York acutely hazardous substances: Xylenes Rhode Island RTK hazardous substances: Xylenes Pennsylvania RTK: Xylenes Minnesota: Xylenes Michigan critical material: Xylenes Massachusetts RTK: Xylenes Massachusetts spill list: Xylenes New Jersey: Xylenes New Jersey spill list: Xylenes Louisiana spill reporting: Xylenes California Director's List of Hazardous Substances: Xylenes TSCA 8(b) inventory: Xylenes SARA 302/304/311/312 hazardous chemicals: Xylenes SARA 313 toxic chemical notification and release reporting: Xylenes CERCLA: Hazardous substances.: Xylenes: 100 lbs. (45.36 kg)

**Other Regulations**
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

## WHMIS (Canada)
CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2B: Material causing other toxic effects
(TOXIC).

## DSCL (EEC)
R11- Highly flammable. R20- Harmful by inhalation. R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R62- Possible risk of impaired fertility. R65- Harmful: may cause lung damage if swallowed. R67- Vapors may cause drowsiness or dizziness. S9- Keep container in a well-ventilated place. S16- Keep away from sources of ignition - No smoking. S29- Do not empty into drains. S33- Take precautionary measures against static discharges. S61- Avoid release to the environment. Refer to special instructions/Safety data sheets. S62- If swallowed, do not induce vomiting: seek medical advice immediately and show this

## HMIS (U.S.A.)
Health Hazard: 1
Fire Hazard: 3
Reactivity: 0
Personal Protection: g,h

**National Fire Protection Association (U.S.A.)**
Health: 1
Flammability: 3
Reactivity: 0
Specific hazard:

## Protective Equipment
Gloves (impervious), lab coat, vapor respirator, and safety glasses. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

## Section 16: Other Information

**References**
Not available

**Other Special Considerations**
Not available

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