


NE Ultimate EMI Armour Paint

Item #: 905138

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| Product: | NE Ultimate EMI Armour Paint |
| Distributor/ supplier/ manufacturer: | Nanotech Energy, Inc. 12100 Wilshire BLVD suite 800 Los Angeles, CA 90025 |
| Phone number: | 1 (800) 995-5491 |
| Relevant identified uses of the substance or mixture | Laboratory chemicals, industrial Manufacturing of substances |

Hazards Identification

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| Hazard Identification: | <p>GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)</p> <p>Acute aquatic toxicity - Category 3 Eye Irritation - Category 2 Reproductive Toxicity - Category 1 Skin Irritation - Category 2</p> | |
| <p>Hazard Statement(s)- GHS Label elements, including precautionary statements</p> <p>Hazard Statement(s) H319 H360 H315</p> <p>Hazardous Statements (Environmental) H402</p> <p>Precautionary Statement(s) P101</p> <p>P102 P103 P273</p> <p>P201 P202</p> <p>Precautionary statements (response) P305+P351+P338</p> <p>P337+P313 P308+P313 P302+P352 P332+P313</p> | <p>Signal word: Danger</p> <p>Causes eye irritation May damage fertility or the unborn child Causes skin irritation</p> <p>Harmful to aquatic life</p> <p>If medical advice is needed, have product container or label at hand</p> <p>Keep out of reach of children Read label before use. Avoid release to the environment Wash thoroughly after handling Wear protective gloves/protective clothing/eye/protection/fac protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.</p> <p>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>If eye irritation persists: Get medical advice/attention.</p> <p>IF exposed or concerned: Get medical advice/attention.</p> <p>IF on skin: wash with plenty of water</p> <p>If skin irritation occurs, get medical attention/advice</p> |  |

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Composition / Information on Ingredients

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| Mixtures: Synonyms | NE Ultra EMI Shielding Paint |
| Substance Name/ Synonyms | Graphene Reduced Graphene Oxide |
| Substance Name/ CAS Number | Silver Coated Copper Powder 7440-50-8 7440-22-4 |
| Substance Name/ CAS Number | Water 7732-18-5 |
| Substance Name | Non-hazardous volatile |
| Substance Name | Non-hazardous solid |
| Substance Name/ EPA ID | Styrene-acrylate-copolymer (P-89-0584) E1809187 |
| Substance Name/ CAS Number | 1-propoxy-2-propanol 1569-01-3 |
| Substance Name/ CAS Number | Ethylene glycol monobutyl ether (2-Butoxyethanol) 111-76-2 |
| Substance Name/ CAS Number | N-METHYL-2-PYRROLIDONE 872-50-4 |
| Substance Name/ CAS Number | Ethyl 3-ethoxypropionate 763-69-9 |
| Substance Name/ CAS Number | Dipropylene glycol monopropyl ether 29911-27-1 |
| Substance Name/ CAS Number | Ammonium hydroxide 1336-21-6 |

No components need to be disclosed according to the applicable regulations

First Aid Measures

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| First Aid: | In case of eye contact Flush with plenty of water for 15 minutes as a precaution |
| | In case of skin contact Wash thoroughly with soap and plenty water. |
| | If inhaled If inhaled, move person into fresh air. If breathing is difficult, admin oxygen. If not breathing, give artificial respiration. Consult a physician. |
| | If swallowed Never give anything by mouth to an unconscious person. Rinse mouth with water |

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Firefighting Measures

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| Extinguishing Media | <p>Means of extinction Dry chemical, foam, carbon dioxide water spray or fog is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Sand or earth may be used for small fires only.</p> <p>For safety reasons unsuitable extinguishing agents: No data available</p> <p>Special hazards arising from the substance or mixture May produce hazardous fumes containing oxides of carbon and oxides of nitrogen.</p> <p>Advice for firefighters Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.</p> |
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Accidental Release Measure

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| 1 | <p>Personal precautions, protective equipment, and emergency procedures Wear protective equipment. Positive pressure, full-facepiece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved). Keep unprotected persons away. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Isolate hazard area and keep unnecessary people away. Remove all possible sources of ignition in the surrounding area. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. If spilled material is cleaned up using a regulated solvent, the resulting waste mixture may be regulated.</p> |
| 2 | <p>Environmental precautions Do not allow material to be released to the environment.</p> |
| 3 | <p>Methods and materials for containment and cleaning up Absorb with liquid binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.</p> |

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Handling and Storage

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| 1 | <p>Precautions for safe handling</p> <p>Wash hands after use. Do not get in eyes, on skin or on clothing. Do not breathe vapors or mists. Use good personal hygiene practices. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. Eyewash stations and showers should be available in areas where this material is used and stored.</p> |
| 2 | <p>Information about protection against explosions and fires:</p> <p>Keep ignition sources away- Do not smoke. Protect against electrostatic charges. Keep respiratory protective device available.</p> |
| 3 | <p>Conditions for safe storage, including any incompatibilities</p> <p>Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight and strong oxidizers. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty containers retain residue and may be dangerous. WARNING: Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperatures and pressures, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources.</p> |

Exposure Controls/ Personal Protection

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| Control parameters | <p>Components with workplace control parameters The following components have PEL, TLV or other recommended exposure limits</p> <p>Dipropylene glycol methyl ether CAS# 34590-94-8 - NIOSH REL: TWA 100 ppm (600 mg/m³) ST 150 ppm (900 mg/m³) - OSHA PEL: TWA 100 ppm (600 mg/m³) [skin]</p> <p>2-Butoxyethanol CAS# 111-76-2 - NIOSH REL: TWA 5 ppm (24 mg/m³) [skin] - OSHA PEL: TWA 50 ppm (240 mg/m³) [skin]</p> <p>N-Methyl-2-Pyrrolidone CAS# 872-50-4 - NIOSH REL: none - OSHA REL: none</p> |
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Exposure Controls/ Personal Protection

| (continued) | |
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| Exposure Control | <p>Appropriate engineering controls General industrial hygiene practice The general precautionary measures for handling any chemicals should be followed. Keep away from all food and drinks Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the eye and skin. Store protective clothing separately</p> |
| Personal Protective equipment | <p>Eye/face protection Use tightly sealed goggles</p> <p>Skin/ hand protection Handle with gloves and avoid all skin contact. Glove material must be impermeable and resistant to the product/ the substance/ the preparation.</p> <p>Body Protection Wear protective work clothes</p> <p>Respiratory protection Use suitable respirator when low concentrations are present. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.</p> |

Physical and Chemical Properties

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| Appearance | Form: liquid |
| Color | Copper red |
| Odor | Product specific |
| Odor Threshold | Not determined |
| pH | 7.75 |
| Melting point/ freezing point | Not determined |
| Initial boiling point and boiling range | 205-491°F (96-255 °F) |
| Flash Point | 93 °C (200 °F) |
| Evaporation rate | Not determined |
| Flammability (solid, gas) | Flash point at or above 200 °F/93 °C |
| Upper/lower flammability or explosive limits | 16.9/1.1 % |
| Percent Weight (w/w) | 67% |
| Vapor pressure @ 20 °C | Not determined |
| Vapor density | Not determined |
| Relative density | 1.5-1.6 g/mL |
| Density | 1.25 ± 0.05 g/mL |
| Water solubility | Miscible |
| Partition Coefficient | Not determined |
| Auto-ignition temperature | Not determined |
| Decomposition temperature | Not determined |
| Viscosity | 400-500 cP |
| Explosive properties | Not determined |
| Oxidizing properties | Not determined |

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Stability and Reactivity

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| Reactivity | Not determined |
| Chemical stability | Stable under recommended storage conditions |
| Possibility of hazardous reactions | No dangerous reaction known. |
| Conditions to avoid | Not determined. |
| Incompatible material | Not compatible with strong oxidizers (such as chlorine, fluorine or ozone gas), strong oxidizing acids (nitric acid, concentrated sulfuric acid) or strong bases. |
| Hazardous decomposition products | Heating to decomposition, as in a fire or welding, may produce hazardous fumes. Fumes may contain carbon monoxide, carbon dioxide and oxides of carbon. |

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Toxicological Information

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| Information on toxicological effects: | <p>Skin corrosion/ irritation Causes skin irritation 100-42-5 STYRENE Can irritate the skin. Styrene can cause defatting of skin. 111-76-2 ETHYLENE GLYCOL MONOBUTYL ETHER Can irritate the skin. May affect the central nervous system, blood, kidneys and liver. Exposure can cause headache, dizziness and lightheadedness. 121-44-8 TRIETHYLAMINE The substance is corrosive to the skin. Clothing wet with chemical causes skin burns. Contact can severely irritate and burn the skin. Triethylamine may cause a skin allergy. If allergy develops, very low future exposure can cause itching and a skin rash. Liquid causes first degree burns on short exposure. Corrosive to skin. Redness. Skin burns. Pain. 872-50-4 N-METHYL-2-PYRROLIDONE Slightly irritating.</p> <p>Serious eye damage/ eye irritation Causes serious eye irritation 50-00-0 FORMALDEHYDE Contact can severely irritate and burn the skin and eyes with possible eye damage. 100-42-5 STYRENE Moderate irritation of eyes. 111-76-2 ETHYLENE GLYCOL MONOBUTYL ETHER Can irritate the eyes. Can irritate the skin. 872-50-4 N-METHYL-2-PYRROLIDONE Moderately irritating. 34590-94-8 DIPROPYLENE GLYCOL MONOMETHYL ETHER The vapor may be irritating to the eyes.</p> <p>Sensitization Causes mild respiratory irritation. Breathing large amounts may be harmful. 50-00-0 FORMALDEHYDE Inhaling can irritate the lungs. May cause a skin allergy and an asthma-like allergy. 100-42-5 STYRENE Styrene can cause a rash, dryness, redness and burning feeling on contact. 111-76-2 ETHYLENE GLYCOL MONOBUTYL ETHER Can irritate the eyes. Can irritate the respiratory tract.</p> <p>Germ Cell Mutagenicity No data available.</p> <p>Carcinogenicity No data available.</p> <p>Reproductive Toxicity May damage fertility or the unborn child 111-76-2 ETHYLENE GLYCOL MONOBUTYL ETHER Can irritate the respiratory tract.</p> |
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| <p>Information on toxicological effects:</p> | <p>Specific Target Organ Toxicity - Single Exposure 50-00-0 FORMALDEHYDE Exposure can irritate the nose, mouth and throat. 100-42-5 STYRENE Exposure can cause headache, dizziness, lightheadedness, and passing out. Very high levels of exposure may affect brain and liver function. 0000111-76-2 ETHYLENE GLYCOL MONOBUTYL ETHER May affect the central nervous system, blood, kidneys and liver. Exposure can cause headache, dizziness and lightheadedness. 872-50-4 N-METHYL-2-PYRROLIDONE The substance is irritating to the eyes and respiratory tract. 34590-94-8 DIPROPYLENE GLYCOL MONOMETHYL ETHER The vapor may be irritating to the respiratory tract. The substance may cause effects on the central nervous system. This may result in narcosis.</p> <p>Specific Target Organ Toxicity - Repeated Exposure 100-42-5 STYRENE Repeated exposure to lower levels can cause problems with concentration, memory, balance and learning ability, and can result in confusion and slowed reflexes. 34590-94-8 DIPROPYLENE GLYCOL MONOMETHYL ETHER The substance defats the skin, which may cause dryness or cracking. Repeated exposure to very high levels may affect the liver.</p> <p>Aspiration Hazard No data available.</p> <p>Acute Toxicity 100-42-5 STYRENE High vapor concentrations cause dizziness, drunkenness, and anesthesia. Styrene can cause central nervous system (CNS) depression. 1569-01-3 1-PROPOXY-2-PROPANOL High concentrations cause irritation and CNS depression 34590-94-8 DIPROPYLENE GLYCOL MONOMETHYL ETHER Exposure can cause headache, dizziness, lightheadedness, and passing out.</p> <p>Likely Routes of Exposure Inhalation, ingestion, skin absorption. Inhalation, Ingestion, Skin contact, Eye contact 872-50-4 N-METHYL-2-PYRROLIDONE The substance can be absorbed into the body by inhalation, through the skin and by ingestion 34590-94-8 DIPROPYLENE GLYCOL MONOMETHYL ETHER The substance can be absorbed into the body by inhalation of its vapour, through the skin and by ingestion. 50-00-0 FORMALDEHYDE The substance can be absorbed into the body by inhalation. 111-76-2 ETHYLENE GLYCOL MONOBUTYL ETHER The substance can be absorbed into the body by inhalation, through the skin and by ingestion.</p> |
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| <p>Information on toxicological effects:</p> | <p>Chronic Exposure 50-00-0 FORMALDEHYDE Formaldehyde has caused cancer in test animals at high concentrations (5-15ppm). Formaldehyde is classified as a Suspected Human Carcinogen (A2) by ACGIH, and as Probably Carcinogenic to Humans (Group 2A) by IARC. Formaldehyde has caused cancer in test animals.</p> <p>Miscellaneous Health Effects 872-50-4 N-METHYL-2-PYRROLIDONE Exposure to very high concentrations could cause lowering of consciousness. Repeated or prolonged contact with skin may cause dermatitis. Animal tests show that this substance possibly causes toxic effects upon human reproduction.</p> <p>Potential Health Effects - Miscellaneous 111-76-2 ETHYLENE GLYCOL MONOBUTYL ETHER Can be absorbed through the skin in harmful amounts. May cause injury to the kidneys, liver, blood and/or bone marrow. Repeated overexposure may result in damage to the blood. Eye contact may cause corneal injury. Has been toxic to the fetus in laboratory animals at doses that are toxic to the mother. 872-50-4 N-METHYL-2-PYRROLIDONE The following medical conditions may be aggravated by exposure: skin disorders. Tests in some laboratory animals indicate this compound may have embryotoxic activity. Tests in laboratory animals have shown effects on any of the following organs/systems: kidneys, liver. WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm. 1569-01-3 1-PROPOXY-2-PROPANOL May cause moderate eye burning. Recurrent overexposure may result in liver and kidney injury.</p> |
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Ecological Information

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| General notes | No known significant effects. |
| Aquatic Toxicity | Harmful to aquatic life |
| Persistence and degradability | Not determined |
| Bio accumulative potential | Not determined |
| Mobility in soil | Not determined |
| Ecotoxicological effects | Harmful to fish |
| Results of PBT and vPvB assessment | Not applicable |
| Other adverse effect | Not determined |

Disposal Considerations

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| Waste from residues/unused products: | <p>Offer surplus and non-recyclable solution to a licensed disposal company. Must not be disposed of together with household garbage. Do not allow product to reach sewage system.</p> <p>Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws.</p> <p>Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.</p> |
| Contaminated packaging: | Dispose of as unused product must be made according to official regulations. |

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Transport Information

| | U.S DOT information | IMDG Information | IATA information |
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| UN Number | Not regulated | Not regulated | Not regulated |
| Proper shipping name | N/a | N/a | N/a |
| Hazard class | N/a | N/a | N/a |
| Packaging group | N/a | N/a | N/a |
| Hazardous substance | No data available | No data available | No data available |
| Marine Pollutant | No data available | No data available | No data available |
| Note/Special provision | No data available | No data available | No data available |

Regulatory Information

| CAS | Chemical name | % by weight | Regulation list |
|------------|--|-------------|---|
| | Nonhazardous solid | 11-14% | SARA312 |
| 7732-18-5 | Water | 9-15% | TSCA |
| | Nonhazardous solid | 9-14% | SARA312 |
| | "Styrene-acrylate-copolymer (generic) (P-89-0584)" | 3-7% | SARA312 |
| 1569-01-3 | 1-PROPOXY-2-PROPANOL | 1-2% | SARA312, VOC, TSCA |
| 111-76-2 | Ethylene glycol monobutyl ether | 1-2% | "SARA313, CERCLA,SARA312,VOC,IARCCarcinogen,TSCA" |
| 872-50-4 | N-methyl-2-pyrrolidone | | "SARA313, SARA312,VOC,TSCA,REACH_SVHC - REACH_Substances of Very High Concern,REACH_SVHC_ToxicForReproduction - REACH_Substances of Very High Concern Toxic for Reproduction,CA_Prop65 - California Proposition 65,CA_Prop65_Type_Toxicity_Devel" |
| 29911-27-1 | "Dipropylene glycol Monopropyl ether" | 0.3-1% | SARA 312, TSCA |
| 1336-21-6 | Ammonium hydroxide | 0-0.2% | SARA312, CERCLA, SARA312, TSCA |

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Other Information

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| HMIS Rating | Health hazard: 2 Fire Hazard: 0 Physical hazard: 1 |
| NFPA Rating | Health Hazard: 2 Fire Hazard: 0 Reactivity Hazard: 0 |

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship