



Safe-React™ Formula E

SAFETY DATA SHEET

SECTION 1 – CHEMICAL AND COMPANY IDENTIFICATION:

Product Name:	Safe React Formula E	Date Printed:	8/27/2019
Product Use/Class:	Concrete Etching/Surface Preparation Treatment	Product ID:	P SRFE
Supplier:	Shield Industries, Inc.	Manufacturer:	Shield Industries, Inc.
Address:	131 Smokehill Lane Woodstock, GA 30188 USA	Address:	131 Smokehill Lane Woodstock, GA 30188 USA
Telephone:	770-517-6869	24 Hour Emergency Hotline:	800-535-5053

SECTION 2 – HAZARD IDENTIFICATION:

Physical hazards:	Corrosive to Metals	Category 1
Health hazards:	Acute Toxicity	Category 4
	Skin sensitization	Category 1
	Eye sensitization	Category 1
	Specific target organ toxicity, single exposure	Category 3
Environmental hazards:	Not classified.	
OSHA defined hazards:	Not classified.	

Label elements:



Signal word: Danger

Hazard statement Harmful if swallowed. (H302)
May be corrosive to metals. (H290)
Causes serious eye damage. (H318)

Precautionary statements:

Prevention: Wear protective gloves/protective clothing/eye protection/face protection. (P280)

Do not eat, drink or smoke when using this product. (P270)
Wash hands and exposed skin thoroughly after handling. (P264)
Avoid breathing dust/fume/gas/mist/vapours/spray. (P261)
Contaminated work clothing should not be allowed out of the workplace. (P272)
Keep only in original container. (P234)

Response: IF SWALLOWED: Rinse mouth. Call a Poison Center or a doctor/physician if you feel unwell. (P301+P330+P312)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. (P305 + P351 + P338 + P310)
Absorb spillage to prevent material damage. (P390)

Storage: Keep out of reach of children. (P102)
Store in corrosion resistant containers such as fiberglass, polyethylene, polypropylene or containers with a resistant inner liner. (P406)

Disposal: Dispose of contents/container to an approved waste disposal plant in accordance with local/regional/national/international regulations. (P501)

Hazard(s) not otherwise classified (HNOC): None known.

Supplemental information: None.

SECTION 3 COMPOSITION/INFORMATION ON COMPONENTS

<u>COMPONENTS</u>	<u>CAS NUMBER</u>	<u>%</u>
Water	7732-18-5	0 - 50 %
Urea monohydrochloride *	506-89-8	50 - 100 %

* The exact percentage of the composition has been withheld as it is a trade secret.

Additional Information:

Substances in the product which may present a health or environmental hazard, or which have been assigned occupational exposure limits, are detailed below:
None

SECTION 4 FIRST AID MEASURES

Eye contact: Immediately rinse eyes cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Keep eyes wide open and continue rinsing for at least 20 minutes, occasionally lifting upper and lower eyelids. Get immediate medical attention.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a

fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact: If on skin, flush contaminated skin with plenty of water. Continue to rinse for at least 20 minutes. If on clothes, remove clothing. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation or rash develops and persists.

Ingestion: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention immediately. Never give anything by mouth to an unconscious person. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. If unconscious, place in recovery position and get medical attention immediately. Keep respiratory tract clear. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed:

Eye Contact:	Causes serious eye damage. Adverse symptoms may include the following: pain or irritation, watering redness.
Inhalation:	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin Contact:	Causes mild skin irritation. Adverse symptoms may include the following: irritation, redness.
Ingestion:	Harmful if swallowed. May be irritating to mouth, throat and stomach.

Indication of immediate medical attention and special treatment needed:

If ingested: Immediately seek medical attention. Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

Notes to Physician: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

General information:

Move affected persons from dangerous area. Do not leave victim unattended. Ensure that medical personnel are aware of the material(s) involved. Show this safety data sheet to the doctor in attendance.

Protection of First Aiders:

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5 FIRE FIGHTING MEASURES

Suitable extinguishing media:

Non-combustible. Use media appropriate for surrounding fire.

Unsuitable extinguishing media:

Do not use water jet.

Specific hazards arising from the chemical:

At temperatures above 140 °F (60 °C) acid action on most metals may release hydrogen, a highly flammable and explosive gas. Combustion or thermal decomposition will evolve toxic and/or irritant vapours. Under such conditions, forms fumes of oxides of carbon, and nitrogen, and toxic gases such as hydrogen chloride.

Special protective equipment and precautions for firefighters:

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Fire-fighting equipment/instructions:

Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapour pressure build up.

Specific methods:

Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes.

General fire hazards:

None known.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

No action shall be taken involving any personal risk or without suitable training. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up (See section 8). Do not get in eyes. Avoid skin contact. Avoid walking through spilled material. Do not breathe vapours or mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Provide adequate local ventilation and ventilate closed spaces before entering them.

Environmental precautions:

Avoid release to the environment. Avoid discharge into drains, water courses or onto the ground. Prevent further leakage or spillage if safe to do so. Inform appropriate managerial or supervisory personnel and authorities of all environmental releases.

Methods and materials for containment and cleaning up:

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 13 for waste disposal.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling:

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original

container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

Advice on protection against fire and explosion:

None – Product is non-combustible.

Conditions for safe storage, including any incompatibilities:

Observe label precautions. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed in a dry and well-ventilated place until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits:

US. ACGIH Threshold Limit Values

<u>Components</u>	<u>CAS</u>	<u>Type</u>	<u>Value</u>
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None established for this product.

Appropriate engineering controls:

Not normally required. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures, such as personal protective equipment:

Eye/face protection:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Hand protection:

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Skin protection/Other:

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before

handling this product. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection:

Not normally required. If a risk assessment indicates that respiratory protection is necessary, use properly fitted equipment that complies with established standards, (such as NIOSH mechanical filter /organic vapor cartridge or an air-supplied respirator). Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Thermal hazards:

Not normally required.

General hygiene considerations:

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing and protective equipment to remove contaminants before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental exposure controls:

Do not allow to enter drains, sewers or waterways.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Physical state:	Liquid
Form:	Liquid
Color:	Clear to slightly hazy yellow
Odor:	Characteristic, Mildly Acrid
Odor threshold:	Not available.
pH:	0.7 +/-0.5
Melting point/freezing point:	< -30 °C
Initial boiling point and boiling range	212 °F estimated (100 °C)
Flash point:	> 200°F estimated (>93.3 °C)
Evaporation rate:	> 1 (Butyl acetate = 1)
Flammability (solid, gas):	Not applicable.
Upper/lower flammability or explosive limits:	
Flammability limit – lower (%):	Not available.
Flammability limit – upper (%):	Not available.
Explosive limit - lower (%):	Not available.
Explosive limit - upper (%):	Not available.
Vapor pressure:	< 0.13kPa (< 0.1mm Hg) @ room temperature
Relative Vapor density:	>1 (air = 1)
Relative density:	1.21 +/- 0. 2
Solubility (water):	Soluble
Partition coefficient (n-octanol/water):	Not available.
Auto-ignition temperature:	Not applicable.
Decomposition temperature:	Not available.
Viscosity (kinematic cSt @ 40 °C):	Not available.
Other information:	
Total VOC (% by weight):	< 0.1 %

VOC (% of hazardous ingredients): 0 %
Ionic nature: Cationic

SECTION 10 STABILITY AND REACTIVITY

Reactivity:

The product is stable and non-reactive under normal ambient conditions of use, storage and transport. If in contact with reactive metals, this product can generate flammable and explosive hydrogen gas.

Chemical stability:

Material is stable under normal conditions.

Possibility of hazardous reactions:

None anticipated under normal ambient conditions of use, storage and transport. If in contact with reactive metals, this product can generate flammable and explosive hydrogen gas.

Conditions to avoid:

Avoid contact with heat, and incompatible materials.

Incompatible materials:

Reactive or incompatible with the following materials: oxidizing materials. This material may be extremely hazardous in contact with chlorates and nitrates. Contact with hypochlorites (eg. Chlorine bleach, sulfides or cyanides) will liberate toxic gases. Contact with alkaline materials (eg. Aqua ammonia) will generate heat. If in contact with reactive metals, this product can generate flammable and explosive hydrogen gas.

Hazardous decomposition products:

At temperatures over 200 C, or under fire conditions, thermal decomposition will evolve toxic and irritant vapours. Under such conditions, forms fumes of oxides of carbon, and nitrogen, and toxic gases such as hydrogen chloride. At temperatures above 140 °F (60 °C) acid action on most metals may release hydrogen, a highly flammable and explosive gas.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Inhalation: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact: May cause skin irritation.

Eye contact: Causes serious eye damage.

Ingestion: Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics:

Vapours may cause irritation of nose and throat. Eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and/or degreasing of skin.

Information on toxicological effects:

Acute toxicity:

<u>Components</u>	<u>CAS#</u>	<u>Test</u>	<u>Species</u>	<u>Test Results</u>
Urea monohydrochloride	506-89-8	Acute Oral LD50	Rat	1,120.9 mg/kg

Skin corrosion/irritation: May cause skin irritation and/or dermatitis.

Safe-React Formula E

- Serious eye damage/eye irritation:** Causes serious eye damage.
- Inhalation:** Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Ingestion:** Irritating to mouth, throat and stomach.
- Respiratory or skin sensitization:**
- Respiratory sensitization:** No data available.
 - Skin sensitization:** No data available.
- Germ cell mutagenicity:** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
- Carcinogenicity:** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
- OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**
Not listed.
- Repeated dose toxicity:**
No data available.
- Specific target organ toxicity - single exposure:**
No data available.
- Teratogenicity:**
No data available.
- Aspiration hazard:**
No data available.

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity: Based upon component data, may be slightly toxic to aquatic life.

Acute Toxicity:

<u>Components/CAS</u>	<u>Test</u>	<u>Species</u>	<u>Test Results</u>
Urea monohydrochloride/ 506-89-8	Aquatic Fish LC50 Aquatic Crustacea LC50	Rainbow trout Ceriodaphnia dubia	> 142 mg/l, 96 hr. 71 mg/l, 48 hr.

Long Term Toxicity:
No data available.

Persistence and degradability:
Urea monohydrochloride (CAS# 506-89-8): No data available.

Bioaccumulative potential:
No data available.

Mobility in soil:
No data available.

Results of PBT and vPvB assessment:

Safe-React Formula E

No data available.

Other adverse effects:

None known.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment/disposal instructions:

Disposal should be in accordance with local, state, or national legislation. Consult an accredited waste disposal contractor or the local authority for advice.

Waste from residues / unused products:

Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. Dispose of in accordance with local regulations.

Contaminated packaging:

Exercise caution as empty containers or liners may retain some product residues. Do not re-use empty containers. Do not burn, or use a cutting torch on, empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14 TRANSPORT INFORMATION

DOT

UN number: Not applicable
UN proper shipping name: Cleaning compounds N.O.S.

Transport hazard class(es):
Class: Not applicable

Subsidiary risk: -

Label(s): Not applicable

Packing group: Not applicable

Special precautions for user:

Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

Environmental hazards: No

Special provisions: None Assigned

Packaging exceptions:

Exempt under DOT 49 CFR 173.154 (d).

Additional Information:

This material is corrosive to aluminum only. Not corrosive to mild steel and skin.

Packaging bulk:

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:
Not applicable

IATA

UN number: 1760

UN proper shipping name: Corrosive liquid N.O.S. (contains urea monohydrogenchloride)

Transport hazard class(es):

Class 8

Subsidiary risk -



Label(s)

Packing group III
Environmental hazards No
ERG Code Not applicable

Special precautions for user:

Read safety instructions, SDS and emergency procedures before handling.

Additional Information:

This material is corrosive to aluminum only. Not corrosive to mild steel and skin.

Packaging bulk:

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:
Not applicable

IMDG

UN number: 1760
UN proper shipping name: Corrosive liquid N.O.S. (contains urea monohydrogenchloride)
Transport hazard class(es):
Class 8
Subsidiary risk -



Label(s)

Packing group III
Environmental hazards No
ERG Code Not applicable

Special precautions for user:

Read safety instructions, SDS and emergency procedures before handling.

Additional Information:

This material is corrosive to aluminum only. Not corrosive to mild steel and skin.

Packaging bulk:

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:
Not applicable

SECTION 15 REGULATORY INFORMATION

US federal regulations:

This product is not 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 or polymer exempt.

CERCLA Hazardous Substance List (40 CFR 302.4)

No Listed materials.

SARA 311/312 – Superfund Amendments and Reauthorization Act of 1986:

Hazard categories:

Immediate Hazard	Yes
Delayed Hazard	No
Fire Hazard	No
Sudden Release	No
Reactivity	No

SARA 313 – Toxic Chemicals (40 CFR 372):

No Listed materials.

SARA 302 Threshold Planning Quantity:

Not regulated.

Other federal regulations:

Clean Air Act (CAA) Ozone-Depletion Potential:

This product neither contains, nor was manufactured with a Class I, or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App. A+B).

US state regulations

U.S. California Proposition 65:

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive effects.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical (EINECS)	Yes Substances
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (KECL)	Yes
New Zealand	New Zealand Inventory (NXIoC)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	(NECI)	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) A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

SECTION 16 OTHER INFORMATION

NFPA RATING: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0

PREPARATION INFORMATION:

DATE CREATED: 01/01/06 LAST REVISION: 08/15/2018
 CREATED/REVISED BY: R. Lasnik

This information relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of this information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.

End of SDS