MATERIAL SAFETY DATA SHEET

SECTION I – PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: Vinyl ester repair and joint sealing paste

TRADE NAME: Dura-Trench SLCF

PRODUCT DESCRIPTION: Glass fiber reinforced vinyl ester joint sealing paste

CAS NUMBER: Not Applicable

PREPARATION DATE: 8/21/2017

MANUFACTURER INFORAMTION: Eric'sons
574 Industrial Way N.
Dallas, GA 30132
770-505-6575

EMERGENCY CONTACT: 678-300-7518

SECTION II – COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL COMPONENT	CAS number	WT %
Calcium Carbonate	471-34-1	20-40
Vinyl Ester Resin	Trade Secret	20-40
Styrene	100-42-5	5 – 25
Sodium Silicate	1344-09-8	3 – 7
Alpha-methylstyrene	98-83-9	0.5 – 1.5
Methyl Alcohol	67-56-1	0.2 – 0.3
Cobalt compounds		<0.2

SECTION III – HEALTH HAZARDS

FORM: Thick fibrous paste

ODOR: Styrene

OSHA /HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview WARNING!

FLAMMABLE LIQUID AND VAPOR. MAY FORM EXPLOSIVE MIXTURES WITH AIR. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES RESPIRATORY TRACT, EYE, AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION.

Potential acute health effects

Inhalation	Can cause central nervous system (CNS) depression. Irritating to respiratory system.
Ingestion	Can cause central nervous system (CNS) depression.
Skin	Irritating to skin. May cause sensitization by skin contact.
Eyes	Irritating to eyes.

Potential chronic health effects

Chronic effects	Contains material that can cause target organ damage.
Carcinogenicity	Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Target organs	Contains material which causes damage to the following organs: kidneys, liver, upper respiratory tract, eyes, central nervous system (CNS), ears Review Section 2 and 11 for additional assessments.

Over-exposure signs/symptoms

Inhalation	Adverse symptoms may include the following: nausea or vomiting, respiratory tract irritation, coughing, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness.
Ingestion	Adverse symptoms may include the following: nausea or vomiting, dizziness/vertigo, drowsiness/fatigue, headache, unconsciousness.
Skin	Adverse symptoms may include the following: irritation, redness.
Eyes	Adverse symptoms may include the following: pain or irritation, watering, redness.

Medical conditions aggravated by over-exposure

Pre-existing skin disorders and disorders involving any other target organs mentioned in this SDS as being at risk may be aggravated by over-exposure to this product.

SECTION IV – FIRST AID MEASURES

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.
Skin Contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Inhalation	Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear and appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. 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. 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. Get medical attention.
Ingestion	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first aid personnel

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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. If suspected that dust, vapor, mist, or gas are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.

Notes to physician	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION V – FIRE OR EXPLOSION HAZARDS

Flammability of the product	Flammable paste. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

Suitable	Use dry chemical, CO_2, water spray (fog) or foam.
Not suitable	Do not use water jet.

Special exposure hazards

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products

Decomposition products may include the following materials: carbon oxides

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special Remarks on Explosion Hazards

Paste and vapor may cause a flash fire or ignite explosively. Vapor is heavier than air and may settle in low places or spread long distances to a source of ignition and flashback. Explosive atmospheres may linger. Closed containers can rupture and release toxic vapors or decomposition products.

SECTION VI – ACCIDENTAL RELEASE MEASURES

Personal precautions

No action shall be taken involving any personal risk without suitable training. Evacuate surrounding areas. Keep unnecessary unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8). Do not breathe dust, vapor, mist, or gas.

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil, or air).

Large spill

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 spillage into an effluent treatment plant or proceed as follows. Wash spillages into and 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). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Use spark proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

SECTION VII – HANDLING AND STORAGE:

Handling	Put on appropriate personal protective equipment (see section 8). 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. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Don not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, keep tightly closed when not in use. Store and use away from heat, sparks, open flame, or any other ignition source. Use explosion-proof electrical (ventilating, lighting, and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Follow US NFPA 30, "Flammable & Combustible Liquids Code", or other national, state, and local codes on safe handling of flammable liquids. Train workers in the recognition and prevention of hazards associated with the storage, handling, and transfer of flammable liquids. Empty containers retain product residue and can be hazardous. Do not reuse container. Do not breathe dust, vapor, mist, or gas.
Storage	Store in an area designated for storage of flammable liquids (See NFPA 30 and OSHA 29 CFR 1910.106). 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. Eliminate all ignition source. Separate from oxidizing materials. Keep container tightly closed and sealed 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 VIII – EXPOSURE CONTROL / PERSONAL PROTECTION:

Ingredient name	Occupational exposure limits
Calcium Carbonate	ACGIH Time Weighted Average (TWA) – 10 mg/m3
Styrene	ACGIH TLV Time Weighted Average (TWA) – 85 mg/m3 20 ppm
	ACGIH TLV Short Term Exposure Limit (STEL) – 170 mg/m3 40 ppm
	OSHA PEL Z2 Time Weighted Average (TWA) – 100 ppm
	OSHA PEL Z2 Ceiling Limit Value – 200 ppm
	OSHA PEL Z2 Acceptable Maximum Peak (AMP) – 600 ppm
Alpha-methylstyrene	ACGIH TVL Time Weighted Average (TWA) – 48 mg/m3 10 ppm
	OSHA PEL Ceiling Limit Value – 480 mg/m3 100 ppm
Sodium Silicate	OSHA PEL Time Weighted Average (TWA) – .08 mg/m3 20MPPCF

Methyl Alcohol	ACGIH TLV Time Weighted Average (TWA) – 200 ppm
	ACGIH TLV Short term Exposure Limit (STEL) – 250 ppm
	OSHA PEL Time Weighted Average (TWA) – 260 mg/m3 200ppm
Cobalt Compounds	ACGIH TLV Time Weighted Average (TWA) – 0.02 mg/m3

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor, or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Hygiene measures	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 before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Respiratory	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.
Hands	Chemical-resistant, impervious gloves complying with an approved standard should be worn always when handling chemical products if a risk assessment indicates this is necessary.
Eyes	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, or dusts.
Skin	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.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION IX – PHYSICAL DATA

Physical state (room temperature):	Thick fibrous paste
Odor:	Styrene
Appearance:	Gray or brown
Odor threshold:	0.2 ppm (Styrene)
Boiling point:	294°F (Styrene)
Freezing point:	Not applicable
Flash point:	89°F Setaflash Closed Cup ASTM D 3278
Percent volatile by volume:	Not applicable
Specific gravity:	>1
Evaporation rate:(butyl acetate = 1)	<1
Vapor pressure:	6.12mmHg @ 68°F (styrene)
Vapor density:	3.6 (Styrene)
pH:	Not applicable
Coefficient of water/oil distribution:	Not determined
Solubility in water (% by weight):	Not soluble

SECTION X – STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Stability	Hazardous polymerization may occur under certain conditions of storage or use.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose containers to heat or sources of ignition.
Materials to avoid	Reactive or incompatible with the following materials: oxidizing materials

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION XI – TOXICOLOGICAL PROPERTIES

Acute toxicity

Ingredient name

Styrene	LD50 Oral	Rat	5000 mg/kg
	LD50 Oral	Mouse	316 mg/kg
	LC50 Inhalation	Rat	11.8 mg/l/4 h
Alpha-methylstyrene	LD50 Oral	Rat	4,900 mg/kg
	LD50 Oral	Mouse	4,500 mg/kg
Sodium Silicate	LD50 Oral	Rat	>5000 mg/kg
	LD50 Dermal	Rabbit	>5000 mg/kg
	LC50 Inhalation	Rat	>0.139 mg/l/4 h

Carcinogenicity

Ingredient name

Styrene	ACGIH	Not classifiable as to its carcinogenicity to humans.
	IARC	Possibly carcinogenic to humans (Group 2B)
	NTP	Reasonably anticipated to be a human carcinogen.
	OSHA	Not classified
	EU	Not classified
Alpha-methylstyrene	ACGIH	Confirmed animal carcinogen with unknown relevance to humans.
	IARC	Not classified
	NTP	Not listed
	OSHA	Not classified
	EU	Not classified.
Cobalt compounds	IARC	Probably carcinogenic to humans (Group 2A)

SECTION XII – ECOLOGICAL INFO

Environmental effects: No known significant effects or critical hazards.

Aquatic ecotoxicity

Ingredient name

Styrene	Fresh Water	Acute LC50 4.02 mg/l/96 h	Fathead minnow
	Salt Water	Acute LC50 9.1 mg/l/96 h	Sheepshead minnow

Alpha-Methyl Styrene	Fresh Water	Acute LC50 10 mg/l/96 h	(pimephales promelas)

Other adverse effects No known significant effects or critical hazards.

SECTION XIII – WASTE DISPOSAL METHOD

Waste disposal The generation of waste should be avoided or minimized whenever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should always comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

SECTION XIV – TRANSPORT INFORMATION

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

International transport regulations

Regulatory info	UN/NA #	Proper shipping name	Classes / *PG	Reportable Qty (RQ)
CFR	1866	RESIN SOLUTION	Class 3 III	Styrene
IMO/IMDG	1866	RESIN SOLUTION	Class 3 III	Styrene
IATA (Cargo)	1866	RESIN SOLUTION	Class 3 III	

It is the responsibility of the transporting organization to follow all applicable laws, regulations, and rules relating to the transportation of the material

SECTION XV – REGULATORY INFORMATION

Hazardous Material Information System III (USA): Health: 2 Flammability: 3 Physical hazards: 0

US regulations

HCS Classification Flammable liquid, irritating material, sensitizing material, carcinogen, target organ effects

US Federal regs **SARA 311/312 Classification Immediate** (acute) health hazard, delayed (chronic) health hazard, reactive, fire hazard

SARA 313 – Supplier Notification

This product contains the following toxic chemical(s) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirements of 40 CFR Part 372.

Styrene – 100-42-5 (25%)

SARA 302 Extremely Hazardous Substances None required.

State regs

Massachusetts RTK Substances The following components are listed: Styrene, alpha-methylstyrene

New Jersey RTK Hazardous Substances The following components are listed: Styrene, alpha-methylstyrene

Pennsylvania RTK Hazardous Substances The following components are listed: Styrene

California Prop. 65: None required.

Canada

WHMIS (Canada)

Class B-2: Flammable liquid

Class D-2A: Material causing other toxic effects (Very toxic).

Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI: The following components are listed: Styrene

International regulations

Chemical inventories

Australian inventory (AICS): All components are listed or exempted.

Canada inventory: All components are listed or exempted.

Japan inventory: Not determined.

China inventory (IECSC): All components are listed or exempted.

Korea inventory: All components are listed or exempted.

New Zealand Inventory (NZIoC): Not determined.

Philippines inventory (PICCS): Not determined.

United States inventory (TSCA 8b): All components are listed or exempted.

SECTION XVI – OTHER INFORMATION

DISCLAIMER: The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state, provincial and local laws and regulations. Eric'sons makes no warranty of any kind, express or implied, concerning the accuracy or completeness of the information and data herein. The implied warranties of merchantability and fitness for a particular purpose are specifically excluded. Eric'sons will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading.