SAFETY DATA SHEET

Enliven

Section 1 Product and Manufacturer Information

Trade Name: Enliven

Family: Adjuvant/Inorganic Salt Blend Formula: Proprietary blended adjuvant

Product Use: Adhesive, Adjuvants, Spreader or Stickers

Manufacturer: Rosen's Inc; 700 SW 291 Hwy, Ste. 204, Liberty, MO 64068.

Phone: 877-781-9191

For chemical emergencies call Chemtrec at 800-424-9300

For other emergencies call 911 and/or appropriate regulatory agencies

Section 2 Health Hazard Identification

Classification of the substance or mixture

HCS 2012 (29 CFR 1910.1200)

Causes serious eye irritation May cause an allergic skin reaction

Label elements

HCS 2012 (29 CFR 1910.1200)

Hazard Statements:

Causes serious eye irritation
May cause an allergic skin reaction

Pictogram:



Signal Word: Warning

Precautionary Statements:

Wash thoroughly after handling.

Wear protective face and eyewear, clothing and gloves.

Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

Contaminated work clothing should not be allowed out of the workplace.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

If on skin: wash with plenty of water.

If skin irritation or rash occurs: get medical advice/ attention

Section 3 Composition / Information on Ingredients

Component	CAS Reg Number	% WT/WT
PROPRIETARY BLEND	******	> 95
Silica, Amorphous, Fumed, Crystalline Free	112945-52-5	1-5
GLYCERIN	56-81-5	< 1

^{*}The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4 First Aid Measures

IF SWALLOWED:

- Call a doctor or poison control center immediately.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

IF IN EYES:

- Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If irritation persists, call a poison control center or doctor for treatment advice.

IF ON SKIN:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 20 minutes.
- Call a poison control center or doctor for treatment advice if irritation persists.

IF INHALED:

- Move person to fresh air.
- If person is not breathing call 911 or an ambulance, then give artificial resuscitation.
- Call a poison control center or doctor for treatment advice.

Risks: Skin contact may aggravate existing skin disease

Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis

Note to physician: All treatments should be based on observed signs and symptoms of

distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically. No specific antidote available.

Section 5 Fire Fighting Measures

Flash Point (TCC): Greater than 200 F

Flammability Limits: Not Established

Extinguishing media

Suitable: Recommended (small fires): carbon dioxide, Recommended (large fire):

dry chemical, universal foam, water spray.

Not suitable: Not recommended: water jet (frothing possible).

Special exposure hazards: Under fire conditions:

Will burn

(following evaporation of water) with the release of toxic gas.

Corrosive or suffocating vapors are released.

Container may rupture on heating.

Hazardous decomposition products formed under fire conditions.

Ammonia Carbon oxides

Hydrogen cyanide (hydrocyanic acid)

Nitrogen oxides (NOx)

Sulfur oxides
Silicon oxides

Special protective

equipment for fire-fighters: Firefighters should wear NIOSH/MSHA approved self-contained breathing

apparatus and full protective clothing.

Section 6 Accidental Release Measures

Personal precautions, protective

Equipment and emergency procedures: Wear suitable protective equipment.

For further information refer to section 8 "Exposure

controls / personal protection."

Environmental precautions: Do not flush into surface water or sanitary sewer system.

Take all necessary measures to avoid accidental

discharge of products into drains and waterways due to

the rupture of containers or transfer systems.

Spills may be reportable to the National Response Center

(800-424-8802) and to state and/or local agencies.

Methods for containment: Stop leak if safe to do so. Dam up with sand or inert

earth (do not use combustible materials).

Recovery: Soak up with inert absorbent material. Shovel or sweep

up.

Keep in suitable, closed containers for disposal. Never return spills in original containers for re-use.

Decontamination / cleaning: Clean contaminated surface thoroughly.

Flush with plenty of water.

Recover the cleaning water for subsequent disposal. Decontaminate tools, equipment and personal protective

equipment in a segregated area.

Disposal: Dispose of in accordance with local regulations.

Additional advice: Material can create slippery conditions.

Section 7 Handling and Storage

Minimum/Maximum Storage Temperatures:

32° F to 120° F

Store product in original container. Do not store near heat or open flame. Do not reuse container. Do not contaminate water, food or feed by storage or disposal. Keep packaging closed, securely fastened and upright. Product may suspend in layers if stored below 32°F.

Triple rinse (or equivalent) prior to disposal. Add rinsate to spray tank. Offer container for recycling or dispose of in accordance with all applicable regulations. If burned, stay out of smoke.

Technical measures: Ethylene oxide may collect in container head space.

Provide adequate ventilation.

Advice on safe handling and usage: Avoid inhalation of vapor or mist.

Avoid contact with skin and eyes.

Do not freeze.

Freezing will affect the physical condition but will not damage

the material.

Thaw and mix before using.

Vent drums while heating Homogenize before using.

Hygiene measures: Personal hygiene is an important work practice exposure control

measure and the following general measures should be taken

when working with or handling this materials:

1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.

- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly to remove accidental splashes or contact with material.

Technical Measures for storage: Take all necessary measures to avoid accidental discharge of

products into drains and waterways due to the rupture of

containers or transfer systems.

Storage conditions

Recommended: Stable under normal conditions.

Keep in a dry, cool and well-ventilated place.

Keep tightly closed.

To be avoided: Keep away from open flames, hot surfaces and sources of

ignition.

Protect from frost.

Keep away from incompatible materials to be indicated by the

manufacturer

Incompatible products: Do not mix with incompatible materials (See list, section 10).

Packaging Measures

Packaging materials recommended: Plastic materials.

Storage stability

Storage temperature: 39 - 120 °F (4 - 49 °C)

Other data: Stable under recommended storage conditions.

Section 8 Exposure Controls / Personal Protection

Introductory Remarks:

These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Engineering measures: Where engineering controls are indicated by use conditions or a

potential for excessive exposure exists, the following traditional

exposure control techniques may be used to effectively minimize employee exposures: Effective exhaust ventilation system.

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.

Personal Protection

Respiratory: In case of inadequate ventilation wear respiratory protection. Wear a

properly fitted NIOSH/MSHA approved respirator whenever exposure to

vapors or mist is likely unless levels are below applicable limits.

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 at all times when handling chemical products

if a risk assessment indicates this is necessary.

Eyes: Eye and face protection requirements will vary dependent upon work

environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material. Eye contact should be prevented through the

use of: Safety glasses with side-shields

Skin and body protection: Recommended preventive skin protection

Footwear protecting against chemicals

impervious clothing

Section 9 Physical and Chemical Properties

Appearance: Physical state: liquid

Color: light yellow Odor: characteristic

Odor Threshold: no data available pH: 5.5 - 7.5 (1 %) Aqueous solution

Pour point: $< 14 \,^{\circ}F (-10 \,^{\circ}C)$

Boiling point/boiling range: > 212 °F (100 °C)

Flash point: > 200 °F (> 93 °C) Pensky-Martens closed cup

Flammability class: Will burn

Evaporation rate (Butylacetate = 1): < 1 Flammability (solid, gas): no data available Flammability (liquids): no data available

Flammability / Explosive limit: no data available Autoignition temperature: no data available

Vapor pressure: no data available
Vapor density: no data available
Density: 1.15 g/cm3 (77 °F (25 °C))
Relative density: 1.2 (77 °F (25 °C))
Solubility: Water solubility

Soluble

Solubility in other solvents

Aromatic hydrocarbons: insoluble Organic polar solvents: insoluble

Partition coefficient: n-octanol/water: no data available

Thermal decomposition: < 455 °F (235 °C)

Viscosity: Viscosity, dynamic: < 3,000 mPa.s (77 °F (25 °C))

Explosive properties: no data available Oxidizing properties: no data available

Other information

Volatiles by Volume: < 65 % Non Volatiles by Weight: > 35 %

Section 10 Stability and Reactivity

Chemical stability: The product is stable. Under normal conditions of storage and use,

hazardous reactions will not occur.

Hazardous polymerization: Under normal conditions of storage and use, hazardous polymerization

will not occur.

Conditions to avoid: Keep away from heat and sources of ignition

Materials to avoid: Strong oxidizing agents, strong bases, alkali metals, acid chlorides and

anhydrides, nitrates.

Hazardous decomposition

products: Ammonia

Hydrogen cyanide (hydrocyanic acid)

(Carbon oxides (CO + CO2)).

Sulfur oxides

Nitrogen oxides (NOx)

Silicon oxides

Section 11 Toxicological Information

Irritating to eyes.

Respiratory or skin sensitization

Sensitization: Guinea pig

not sensitizing

Information given is based on data obtained from similar substances.

Local lymph node assay - Mouse

May cause sensitization by skin contact.

Information given is based on data obtained from similar substances.

Conflicting results have been seen in different studies.

Section 12 Ecological Information

According to the data on the components: Toxic to aquatic life. According to the classification criteria for mixtures.

Section 13 Disposal Considerations

Product Disposal

Advice on Disposal:

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Waste Code: EPA Hazardous Waste - NO

Disposal: Triple rinse (or equivalent) prior to disposal. Add rinsate to spray tank. Offer container for recycling or dispose of in accordance with all applicable regulations. If burned, stay out of smoke.

Section 14 Transport Information

This material is not regulated as a hazardous material by the U.S.D.O.T. Use normal transportation safety precautions.

Regulatory Information Section 15

Notification Status

y (positive listing) United States TSCA Inventory On TSCA Inventory

Canadian Domestic Substances List y (positive listing)

All components of this product are on (DSL) the Canadian DSL.

Australia Inventory of Chemical y (positive listing)

Substances (AICS) On the inventory, or in compliance with

the inventory Japan. CSCL - Inventory of Existing and n (Negative listing)

New Chemical Substances Not in compliance with the inventory Korea. Korean Existing Chemicals y (positive listing)

Inventory (KECI)

On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical y (positive listing)

On the inventory, or in compliance with Substances in China (IECSC) the inventory

SARA 311/312 Hazards

Fire Hazard no Reactivity Hazard no Sudden Release of Pressure Hazard

Acute Health Hazard yes Chronic Health Hazard no

SARA 313:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 302:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA - Emergency Planning and Community Right-to-Know CERCLA Reportable Quantity

Ingredients	CAS-No	Reportable quantity
Sodium Hydroxide	1310-73-2	1000lb

SARA 304 Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Reportable Quantity

This material does not contain any components with a SARA 302 RQ.

Section 16 Other Information

NFPA Classification

Health: 2 Moderate Flammability: 1 Slight Reactivity: 0 Minimal

HMIS Classification

Health: 2 Moderate Flammability: 1 Slight Reactivity: 0 Minimal

Disclaimer: This information relates to the specific material designated and may not be valid for such material used in combination with any other materials 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. No warranty of merchantability, fitness for any particular purpose, or any other warranty, express or implied, is made concerning the information herein provided. It is the user's responsibility to satisfy themselves as to the suitability and completeness of such information for their 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.

Preparation/Revision

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