

SAFETY DATA SHEET

LINKAGE

SDS DATE: 02/01/2021

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: LINKAGE

DISTRIBUTOR: CHS Inc. 5500 Cenex Drive
Inver Grove Heights, MN 55077
651-355-6000

EMERGENCY CHEMTREC PHONE: US & CANADA: 1-800-424-9300

CHEMICAL NAME: Proprietary mixture
CHEMICAL FAMILY: Surfactant/ Basic blend
CHEMICAL FORMULA: Mixture

PRODUCT USE: Adjuvant

SECTION 1 NOTES: None

SECTION 2: HAZARDS

GHS Ratings:

Skin corrosion/ irritation
Eye damage/ irritation

Toxicity Categories

Category 2
Category 2A



Signal Word: **WARNING**

GHS HAZARDS

H315 Causes skin irritation.
H319 Causes serious eye irritation.

GHS PRECAUTIONS

P102 Keep out of reach of children.
P103 Read label before use.
P233 Keep container tightly closed.
P234 Keep only in original container.
P261 Avoid breathing spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves, protective clothing, eye protection and face protection.
P301+312 IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do then continue rinsing cautiously.
P337+313 If eye irritation persists: Get medical advice or attention.
P332+313 If skin irritation occurs: Get medical advice or attention.
P362 Take off contaminated clothing and wash it before reuse.

SECTION 3: INFORMATION ON COMPONENTS

<u>INGREDIENT</u>	<u>CAS NO.</u>	<u>% WT</u>
Proprietary	Proprietary	5 - 15%
Urea ammonium nitrate solution	proprietary	45 - 50 %
Propionic Acid	79-09-4	5 - 10%
Ammonium hydroxide	1336-21-6	1 - 5%
Alcohol ethoxylate	proprietary	10- 20%

NOTE: Product does NOT contain any pesticides or pest control agents.

SECTION 3 NOTES: These specific chemical identities and or exact percentage (concentration) of composition have been withheld as a trade secret.

CARCINOGENICITY

OSHA: No **ACGIH:** No **NTP:** No **IARC:** No **OTHER:** No

SECTION 4: FIRST AID MEASURES

Have the product container with you if calling a poison control center or doctor or going for treatment.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do then continue rinsing. If eye irritation persists: Get medical advice or attention.

IF ON SKIN OR CLOTHING: Take off contaminated clothing and wash it before reuse. Wash with plenty of soap and water for several minutes. Call a poison center OR physician to specify the appropriate source of emergency medical advice. If skin irritation occurs: Get medical advice or attention.

IF SWALLOWED: Unless advised otherwise by a poison control center or doctor, have person rinse mouth with water, if able. Do not give anything by mouth to an unconscious person.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth to mouth if possible.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:

SECTION 4 NOTES: None

SECTION 5: FIRE FIGHTING MEASURES

NFPA HAZARD CLASSIFICATION

HEALTH: 2 **FLAMMABILITY:** 1 **REACTIVITY:** 0 **OTHER:** -

IN CASE OF FIRE: Use water spray, dry chemical, or Carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-container breathing apparatus and avoid breathing fumes or dust.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known

HAZARDOUS DECOMPOSITION PRODUCTS: Under fire conditions will form oxides of carbon.

SECTION 5 NOTES: None

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Surround and absorb all spills. Material should be collected and disposed in proper manner. Dike the area to prevent spill from spreading. Soak up spill with a suitable absorbent such as clay, sawdust or kitty litter. Sweep up absorbed material and place in a chemical waste container for disposal. Wear suitable protective equipment.

SECTION 6 NOTES: None

SECTION 7: HANDLING AND STORAGE

HANDLING Keep out of reach of children. Read label before use. Do not eat, drink or smoke when using this product. Avoid breathing spray. Wash hands thoroughly after handling. Wear protective gloves, protective clothing, eye protection.

STORAGE: Store in a cool well-ventilated place. Keep in original container tightly closed. Do not reuse empty container. Do not store with food, feed, or other material to be used or consumed by humans or animals. Do not contaminate water supplies. **IF PRODUCT FREEZES DURING STORAGE, WARM CONTAINER AND SHAKE WELL BEFORE USE. No value has been lost and the product will perform as expected.**

SECTION 7 NOTES: None

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

	OSHA		ACGIH		NIOSH	
	PEL	STEL	PEL	STEL	PEL	STEL
Propionic Acid 79-09-4			10 ppm TWA		10 ppm TWA; 30 mg/m ³ TWA 15 ppm STEL; 45 mg/m ³ STEL	

HMIS=B

- VENTILATION:** Normal room ventilation (mechanical) or outdoor use should be satisfactory.
- RESPIRATORY PROTECTION:** Not necessary unless ventilation is inadequate. Then use OSHA or NIOSH approved respirator, as appropriate.
- EYE PROTECTION:** Safety glasses with side shields. 
- SKIN PROTECTION:** Chemical gloves, long-sleeved shirts and pants. 
- OTHER PROTECTIVE CLOTHING OR EQUIPMENT:** Eye wash and safety shower should be easily accessible. Dust mask optional.
- WORK HYGIENIC PRACTICES:** Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products. Clean affected clothing, shoes, and protective equipment before reuse.
- EXPOSURE GUIDELINES:** If exposed, see section 4 for acute exposure first aid.
- SECTION 8 NOTES:** None

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- APPEARANCE:** Clear, light blue
- ODOR:** Slight ammonia
- ORDER THRESHOLD:** Not known
- PHYSICAL STATE:** Liquid
- pH AS SUPPLIED:** 8.0 to 9 dilute
- pH (Other):**
- INITIAL BOILING POINT:** F: Unknown
C: Unknown
- BOILING POINT RANGE:** F: Unknown
C: Unknown
- MELTING POINT:** F: Unknown
C: Unknown
- FREEZING POINT:** F: Unknown
C: Unknown
- FLASH POINT:** F: >200
C: >93
- METHOD USED:** PMCC
- FLAMMABILITY (solid, gas):** Can burn
- FLAMMABLE LIMITS IN AIR, UPPER (% BY VOLUME):** Unknown
- LOWER:** Unknown
- VAPOR PRESSURE (mmHg):** @
F: Unknown
C: Unknown
- VAPOR DENSITY (AIR = 1):** @
F: Unknown
C: Unknown
- RELATIVE DENSITY:** 1.131 to 1.158
- EVAPORATION RATE:** Unknown
- BASIS (butyl acetate=1):**
- SOLUBILITY IN WATER:** Soluble

SECTION 9 NOTES: VALUES ARE NOT PRODUCT SPECIFICATIONS.
 Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

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SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable Unstable

CONDITIONS TO AVOID (STABILITY): None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Stable except when exposed to the above materials or fire conditions.

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID (POLYMERIZATION): None known

SECTION 10 NOTES: None

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: None

MIXTURE TOXICITY Not available

COMPONENT TOXICITY Not available

SECTION 11 NOTES: None

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: None

ECOTOXICITY: Not available

BIOACCUMULATIVE POTENTIAL: Not available

MOBILITY IN SOIL: Not available

OTHER ADVERSE EFFECTS: Not available

SECTION 12 NOTES: None

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Do not contaminate water, food or feed by storage or disposal. Dispose of contents in container to an approved waste disposal facility in accordance with all local, regional, national and international regulations.

CONTAINER DISPOSAL: Triple rinse (or equivalent) adding rinse water to application tank. Offer container for recycling or dispose of in a sanitary landfill or by other procedures approved by local, state, and national regulations.

RCRA HAZARD CLASS: None

SECTION 13 NOTES: None

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SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

DOT Shipping Description:

NOT REGULATED AS CORROSIVE WHEN TRANSPORTED BY MOTOR VEHICLE OR RAILCAR IN PACKAGING THAT WILL NOT REACT WITH OR BE DEGRADED BY THIS MATERIAL SUCH AS HDPE OR STAINLESS STEEL - 49 CFR 173.154 (d).

Average rate of corrosion for STEEL Coupon test 0.4316 mm/yr
Average rate of corrosion for ALUMINUM ALLOY Coupon test .0231 mm/yr

U.S. Surface Freight Classification: ADHESIVES, ADJUVANTS, SPREADERS OR STICKERS (NMFC 4610; CLASS: 60) Consult appropriate ICAO/IATA and IMDG regulations for shipment requirements in the Air and Maritime shipping modes.

OTHER AGENCIES: None

SECTION 14 NOTES: None

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): All components of this product are listed or excluded from listing on the US Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): Not Regulated

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):

SARA regulated compounds	% Wt.
Aqueous ammonia	<10

SARA 313: Aqueous ammonia per 40 CFR 372.65.

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

WARNING! This product contains a detectable amount of ethylene oxide, which is known to the State of California to cause cancer and/or reproductive toxicity.

Ethoxylated products may contain residual amounts of ethylene oxide (EO) which can accumulate in the container headspace and be released into the ambient environment. This process is enhanced when the product is agitated, as during tank car loading and unloading, and blending operations. Ethylene oxide causes tumors in laboratory animals. The Occupational Safety and Health Administration (OSHA) Permissible Exposure Level (PEL) for EO is 1 ppm for an eight-hour time weighted average exposure. The standard regulates occupational exposure to EO from all sources, including products containing residual EO. It is the responsibility of the employer to comply with OSHA ethylene oxide standard (29) CFR 1910.1047).

INTERNATIONAL REGULATIONS: None

SECTION 15 NOTES: None

SECTION 16: OTHER INFORMATION

OTHER INFORMATION: None

DISCLAIMER:

The recommendation for safe handling and protection procedures is believed to be generally suitable for the standard uses of this compound. However, each user should identify his intended uses of this material and determine whether they are appropriate. All data included in this document is released as typical values and should not be utilized to determine the suitability of this material for a particular use or purpose. No warranty, either expressed or implied, is hereby made, nor do we give permission, inducement, or recommendations to practice any patented invention without a license. All data is offered for consideration, investigation and verification purposes only.