SDS DATE: 03/10/2021

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME (GHS Product Identifier): Thin Stillage (Other means of Identification):

PRODUCT INTENDED USE AND RESTRICTION: Product in the ethanol production process

NAME, ADDRESS & TELEPHONE NUMBER OF THE RESPONSIBLE PARTY:

Company Green Plains Trade Group LLC 1811 Aksarben Drive, Omaha, NE 68106 Phone: 402-884-8700 Email: EHSS@gpreinc.com

CHEMTREC PHONE (24HR Emergency Telephone): 1-800-424-9300 (Within U.S.A) INTERNATIONAL CHEMTREC CALL: 1-703-527-3887 OTHER CALLS: 1-402-884-8700 (M-F, 8 AM-5 PM, Eastern Time (U.S.A & Canada); within U.S.A)

FAX PHONE: 1-402-884-8776 (M-F, 8 AM-5 PM, Eastern Time (U.S.A & Canada); within U.S.A)

SECTION 1 NOTES: None Available

SECTION 2: HAZARDS IDENTIFICATION

GHS LABELING AND CLASSIFICATION: This product meets the definition of the following hazard classes as defined by the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

GHS CLASSIFICATION ACCORDING TO ANNEX II:

HEALTH	ENVIRON	IENTAL	PHYSICAL	
Not Applicable Not Applica		ble	Not Applicable	
SIGNAL WORD:		NONE		
SYMBOL:		Not Applicable		
HAZARD STATEMENT:		Not Applicable		
	PREVENTIVE:	Not Applicable		
	RESPONSE:	Not Applicable		
PRECAUTIONARY STATEMENTS:	STORAGE:	Not Applicable		
	DISPOSAL:	Not Applicable		

Any Regional Considerations: N/A

SECTION 2 NOTES: None Available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME: Thin Stillage COMMON NAME: N/A CHEMICAL FAMILY: N/A CHEMICAL FORMULA: N/A SYNONYMS: N/A

INGREDIENT: Water; Organics

NAME	CAS#	EC#	ICSC#	<u>% WT</u>	% VOL
Water	7732-18-5	231-791-2	None	97-98%	N/A
Organics	N/A	N/A	N/A	2-3%	N/A

CARCINOGENICITY
OSHA: NO

ACGIH: NOT LISTED

NTP: NOT LISTED PAGE 1 OF 7 IARC: NOT LISTED



OTHER: N/A

IMPURITIES/STABILIZING ADDITIVES IDENTIFICATION: N/A

IMPURITIES/STABILIZING ADDITIVES CLASSIFICATION (if applicable): N/A

SECTION 3 NOTES: Thin stillage is the remainder of grain fermentation residue after distillation, following centrifugation of suspended solids. No ethanol is present. Stillage is 2-3% dissolved organics and 1-5% suspended organic matter in aqueous solution

SECTION 4: FIRST AID MEASURES

Contaminated individuals of chemical exposure must be taken for medical attention if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to health professional with contaminated individual.

EMERGENCY OVERVIEW: No hazardous components are known to be present

ROUTES OF ENTRY/FIRST AID:

EYES CONTACT: Flush eyes with water

SKIN CONTACT: Wash skin with soap and water

INHALATION: Discontinue ingestion. Seek medical attention if discomfort persists

INGESTION: DO NOT induce vomiting; seek medical attention if necessary

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Some people may experience allergenic symptoms to yeast smell

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: N/A

SECTION 4 NOTES: None Available

SECTION 5: FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Use appropriate extinguishing media to put off surrounding fire

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: None (Define specific hazards arising from the chemical e.g., nature of any hazardous combustion products)

HAZARDOUS DECOMPOSITION PRODUCTS: None

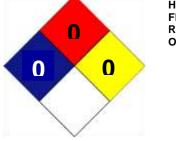
FLAMMABLE LIMITS IN AIR (% by volume): UPPER LIMIT: N/A LOWER LIMIT: N/A

FLASH POINT: N/A F: C: METHOD USED: N/A

AUTOIGNITION TEMPERATURE: F: N/A C: N/A



NFPA HAZARD CLASSIFICATION:



HEALTH=0 FLAMMABILITY=0 REACTIVITY=0 OTHER=N/A

HMIS HAZARD CLASSIFICATION (0-4 scale):

Thin Stillage	
HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	В
Safety glasses, gloves	

SECTION 5 NOTES: None Available

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Wear appropriate PPEs

- ENVIRONMENTAL PRECAUTIONS: Keep run-offs out of municipal sewers and open bodies of water. Comply with local, state and federal laws and regulations
- METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Isolate the containment area; Keep unauthorized personnel away; Wear appropriate PPEs; use clean water to dilute and wash spilled area

SECTION 6 NOTES: None Available

SECTION 7: HANDLING AND STORAGE

PRECAUTION FOR SAFE HANDLING: Produce might be hot; wear appropriate PPEs

CONDITIONS FOR SAFE STORAGE (any incompatibilities): Store in accordance with local and state regulations. Keep away from incompatible materials. Use appropriate containments to avoid environmental contamination.

SECTION 7 NOTES: None Available

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS/GUIDELINES: N/A

INGREDIENTS	ACGIH	NIOSH	OSHA-FINAL PELs
Water	N/A	N/A	N/A

ENGINEERING CONTROLS:

VENTILATION: N/A

PERSONAL PROTECTIVE EQUIPMENT (PPE):

EYE PROTECTION: Safety goggles or glasses as appropriate for the job

SKIN PROTECTION: Protective gloves of any material appropriate for the job

RESPIRATORY PROTECTION: None

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Safety shoes



SECTION 8 NOTES: None Available

```
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES
APPEARANCE: Tan color
PHYSICAL STATE: Liquid
COLOR: Tan color
ODOR: sweet smell
pH AS SUPPLIED: Variable, usually 6-8
pH (Other):
FREEZING POINT: N/A
        F:
        C:
BOILING POINT: N/A
        F:
        C:
MELTING POINT: N/A
        F:
        C:
FLASH POINT: N/A
        F:
        C:
EVAPORATION RATE (BASIS=1): N/A
FLAMMABILITY (by %volume): N/A
        UPPER FLAMMABILITY LIMIT:
        LOWER FLAMMABILITY LIMIT:
VAPOR PRESSURE (mmHg): N/A
     @
        F:
        C:
VAPOR DENSITY (AIR = 1): N/A
     @
        F:
        C:
SOLUBILITY IN WATER: N/A
PARTITION COEFFICIENT n-octanol/water: N/A
AUTO-IGNITION TEMPERATURE: N/A
        F:
        C:
DECOMPOSITION TEMPERATURE: N/A
        F:
        C:
SPECIFIC GRAVITY (H2O = 1): N/A
     @
        F:
        C:
PERCENT SOLIDS BY WEIGHT: Approximately 4.0%
PERCENT VOLATILE: N/A
```

BY WT/BY VOL @



C:

VOLATILE ORGANIC COMPOUNDS (VOC): N/A WITH WATER: LBS/GAL WITHOUT WATER: LBS/GAL

MOLECULAR WEIGHT: N/A

VISCOSITY: N/A

@ F:

C:

SECTION 9 NOTES: None Available

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: N/A

STABILITY: Stable

CONDITIONS TO AVOID (STABILITY): Avoid contact with strong oxidizers

POSSIBILITY OF HAZARDOUS REACTIONS: N/A

INCOMPATIBILITY MATERIAL: Contact with oxidizing agents may cause a reaction

HAZARDOUS DECOMPOSITION PRODUCTS: N/A

SECTION 10 NOTES: None Available

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: This product is not known to have any toxicological effects

ROUTES OF EXPOSURE: Eyes, mouth, inhalation, and skin

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS: CONTACT WITH EYES: Generally causes pain, irritation and reflex lid closure

CONTACT WITH SKIN: No irritation is expected

INHALATION: No long term effects expected

INGESTION: N/A

DELAYED AND IMMEDIATE EFFECTS AND ALSO CHRONIC EFFECTS FROM SHORT- AND LONG-TERM EXPOSURE: N/A

NUMERICAL MEASURES OF TOXICITY:

LD50/LC50: No data available

IRRITATION DATA: No data available

CARCINOGENICITY: No data available

EPIDEMILOGY: No data available

TERATOGENICITY: No data available

REPRODUCTIVE EFFECTS: No data available

NEUROTOXICITY: No data available

MUTAGENICITY: No data available

OTHER: No data available

SECTION 11 NOTES: None Available

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY (AQUATIC AND TERRESTRIAL, WHERE AVAILABLE): Whole stillage is biodegradable but large quantities may increase BOD in surface waters eventually causing stress or death to fish and other aquatic life

PERSISTENCE AND DEGRADABILITY: Biodegradable

BIOACCUMULATIVE POTENTIAL: Not expect to bioaccumulate

MOBILITY IN SOIL: Mobile

OTHER ADVERSE EFFECTS: N/A

SECTION 12 NOTES: None Available

SECTION 13: DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: All recovered material should be labeled, packaged, transported and disposed of or reclaimed in conformance with applicable state and federal laws and regulations

RCRA HAZARD CLASS: N/A

DESCRIPTION OF WASTE RESIDUES AND INFORMATION ON THEIR SAFE HANDLING AND METHODS OF DISPOSAL, INCLUDING ANY CONTAMINATED PACKAGING: Disposal should be in accordance with local, state, and federal regulations.

SECTION 13 NOTES: None Available

SECTION 14: TRANSPORT INFORMATION

U.N. GHS TRANSPORT REQUIREMENT UN NUMBER: N/A PROPER SHIPPING NAME: Thin Stillage TRANSPORT HAZARD CLASS: N/A PACKING GROUP: N/A LABEL STATEMENT: N/A MARINE POLLUTANT: No

SPECIAL PRECAUTIONS FOR USER: Wear appropriate PPEs

SECTION 14 NOTES: None Available

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TOXIC SUBSTANCE CONTROL ACT (TSCA): All components of this product are listed or exempt from listing in the TSCA Inventory

OCCUPATIONAL, SAFETY AND HEALTH ADMINISTRATION (OSHA): N/A

COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT (CERCLA): N/A

CLEAN WATER ACT (CWA): N/A

CLEAN AIR ACT (CAA): N/A

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III INFORMATION:

SARA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: N/A

SARA SECTION 311/312 (40 CFR 370) HAZARD CATEGORIES:N/A



STATE REGULATIONS: N/A

INTERNATIONAL REGULATIONS: N/A

SECTION 15 NOTES: California Proposition 65 requires manufacturers or distributors of consumer products into the state of California to provide a warning statement if the product contains ingredients for which the State has found to cause cancer, birth defects or other reproductive harm. If this product contains an ingredient listed by the state of California to cause cancer or reproductive toxicity it will be listed below

SECTION 16: OTHER INFORMATION

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

REFERENCES:

GHS Annex II GHS SDS Instruction

ACRONYMS/ABBREVIATIONS:

ACGIH-American Conference of Governmental Industrial Hygienists CAA-Clean Air Act CAS-Chemical Abstracts Service CERCLA-Comprehensive Response Compensation and Liability Act CHEMTREC-It serves as a round-the-clock resource for obtaining immediate response information for incidents involving hazardous material and dangerous goods. CWA-Clean Water Act **EC-European Commission** GHS-Globally Harmonized System of Classification and Labeling of Chemicals IARC-International Agency for the Research on Cancer ICSC-International Chemical Safety Cards LC50-The concentration of a chemical in air or of a chemical in water which causes the death of 50% of a group of test animals. LD50-The amount of a chemical, given all at once, which causes the death of 50% of a group of test animals. NIOSH-The National Institute for Occupational Safety and Health NTP-National Toxicology Program OSHA-Occupational Safety and Health Administration RCRA-Resource Conservation and Recovery Act **RQ-Reportable Quantity** SARA-Superfund Amendments and Reauthorization Act STOST-SE-Specific Target Organ Toxicity Single Exposure TPQ-Threshold Planning Quantity TSCA-Toxic Substance Control Act **U.N.-United Nation** UNCED-United Nations Conference on Environment and Development VOL-Volume WT-Weight