

DOCKETED

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TN #:	236443
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Description:	N/A
Filer:	Scott Galati
Organization:	DayZenLLC
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STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Small Power Plant
Exemption for the **SEQUOIA BACKUP
GENERATING FACILITY**

DOCKET NO: 19-SPPE-03

**C1-SANTA CLARA LLC'S
SUPPLEMENTAL RESPONSE TO
JANUARY 20, 2021 ORDER FOR
FILING REVISED PROJECT
DESCRIPTION**

C1-Santa Clara LLC (C1) previously docketed its initial Response to the Hearing Officer Memorandum dated January 20, 2021 ordering the Filing of a Revised Project Description its Sequoia Backup Generating Facility (SBGF) (TN 236429), which contained a Revised Project Description describing the use of Tier 4 compliant generators and the associated reduction in air quality emissions. C1 hereby submits additional information demonstrating that the solution containing urea (commonly referred to as diesel exhaust fluid or "DEF") required for operation of the Selective Catalytic Reduction (SCR) system is not a hazardous substance. Attached are: 1) a Safety Data Sheet for the solution and a letter from the State Water Resources Control Board (SWRCB).

The Safety Data Sheet demonstrates that transportation of the solution is not regulated, because it is not a hazardous material, substance or dangerous good and does not require hazard label warnings.

The letter from the SWRCB demonstrates that it the solution is not is not a hazardous substance as defined in Section 25281 of the Health and Safety Code and, accordingly, USTs storing it are not regulated under Chapter 6.7 of the Health and Safety Code.

Dated: January 25, 2021

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Scott A. Galati", written over a horizontal line.

Scott A. Galati

Counsel to C1-Santa Clara, LLC



Safety Data Sheet

1. Product Identifier and Company Identification

Product name : Urea Solution – High Purity 32.5%
HBCC SDS number : CU02460M0
Synonym : Urea Solution; Urea liquor; Diesel Exhaust Fluid (DEF),
Product use and Restrictions : Refer to label or call
Manufacturer : Corporate Headquarters
Contact Address : Hill Brothers Chemical Company
1675 North Main Street
Orange, California 92867
714-998-8800
800-821-7234
Corporate Safety & Compliance
Hill Brothers Chemical Company
7121 West Bell Road, Suite 250
Glendale, Arizona 85308
623-535-9955 - Office
623-535-9944 - Fax
Emergency telephone Number (Chemtrec) : 800-424-9300
Website : <http://hillbrothers.com>

2. Hazard Identification

Classification : None
Signal Word : None
Pictogram(s) : None
Hazard Statements : None

Precautionary Statements

Response : None
Prevention : None
Storage : None
Disposal : None

3. Composition/Information on Ingredients

CAS Number	Ingredient Name	Weight %
57-13-6	Urea	31-33%
7732-18-5	Water	67-69%
7664-41-7	Ammonia	≤0.15%

4. First Aid Measures

Summary of First Aid Measures

Ingestion : Do not induce vomiting. Get medical attention immediately.
Inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

- Skin** : Remove contaminated clothing. Rinse immediately with plenty of water. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.
- Eyes** : Immediately flush with large amounts of water, including under the eyelids. If pain or irritation persists seek medical attention. Speed and thoroughness in rinsing eyes are important to avoid permanent injury.

Medical Conditions

Effects of Acute and Delayed Exposure

- Inhalation** : May cause respiratory irritation.
- Skin Contact** : May cause skin irritation.
- Eye Contact** : May cause eye irritation.
- Ingestion** : Do not induce vomiting. Get medical attention immediately.
- Chronic Symptoms** : None expected under normal conditions of use.

Indication of Any Immediate Medical Attention and Special Treatment Needed

- : If exposed and feeling unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

- Extinguishing** : Use extinguishing media appropriate for surrounding fire. Unsuitable Extinguishing Media: Do not use heavy water stream. Use of Heavy water stream of water may spread fire.
- Special Exposure Hazards** : Fire Hazard: Not combustible but may decompose at high temperatures. Explosion Hazard: Product is not explosive. Reactivity: Hazardous reactions will not occur under normal conditions.
- Special Protective** : Do not enter fire area without proper protective equipment, including Respiratory protection.
- Fire Fighting Procedures** : Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present. Firefighting Instructions: Use water spray or fog for cooling exposed containers.
- NFPA Rating** : Health - 1
Flammability - 0
Instability - 0



0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

6. Accidental Release Measures

- Personal Precautions** : Equip Cleanup crew with proper protection.
- Emergency Procedures** : Ventilate area.
- Methods of Containment And Clean-Up** : Contain any spills to prevent migration and entry into sewers or streams. Clean up spills immediately and dispose of safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities as appropriate after a spill. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

7. Handling and Storage

- Safe Handling** : Store in compliance with all Federal, State, and local regulations. Store in a well-ventilated area, away from incompatible materials or sources of heat and ignition. Empty containers may contain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flames, sparks or other sources of ignition; they may evolve noxious fumes.
- Storage** : Store in compliance with all Federal, State, and local regulations.
- Work/Hygienic Practices** : Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits :

Chemical Name: Urea Solution – High Purity 32.5%				
Exposure Limits (TWAs) in Air				
CAS Number	Chemical	ACGIH TLV	OSHA PEL	STEL
57-13-6	Urea	N/A	N/A	N/A
7664-41-7	Ammonia	25	50	35

Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available but not required.

- Protective Equipment** : Safety glasses, gloves and general work clothing are recommended. Where Ventilation is insufficient, wear respiratory protection. Wearing of appropriate protective clothing and gloves is suggested if epidermal sensitivity develops. Wear chemically resistant protectives gloves.
- Eye Protection** : Safety glasses.
- Respiratory** : Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

9. Physical and Chemical Properties

Appearance: Colorless liquid	Odor: slight ammonia odor
Odor Threshold: Not available	pH: 7.5-10
Melting Point/Freezing Point: 11.5F	Initial Boiling Point/Range: 219°F
Flash Point: Not applicable	Evaporation Rate (BuAc=1): Not available
Flammability: Not applicable	Lower/Upper Explosive Limit: Not applicable
Vapor Pressure (mmHg): Not available	Vapor Density (Air=1): Not available
Specific Gravity @ 20°C: 1.09cc (9.1 lb/gal)	Solubility in Water: 100%
Heat of Solution in H₂O: Not available	Heat Capacity at 25° C (77° F): Not available
Decomposition Temperature: 135°C (275°F) Urea	Density at 25° C (77° F): 9.1 Lbs./Gal
% Volatiles: Not available	Loose Bulk Density: Not available
Molecular Weight: 60.07 (100% Urea)	VOC: Not available

10. Stability and Reactivity

Reactivity	: Hazardous reactions will not occur under normal conditions.
Chemical Stability	: Stable under recommended handling and storage conditions (see section 7).
Possibility of Hazardous Reactions or Polymerizations	: Hazardous polymerization will not occur.
Conditions to Avoid	: Avoid exposing containers to heat or flame. Keep separated from incompatible materials.
Incompatible Materials	: Nitric acid. Gallium. Perchlorates. Strong oxidizers. Caustic products. Alkalis.
Hazardous Decomposition Products	: Ammonia. Nitrogen oxides.

11. Toxicological Information

Acute and Chronic Effects	: Not classified
Routes of Exposure	
Inhalation	: Yes
Ingestion	: Yes
Skin	: Yes
Eyes	: Yes
Symptoms related to Physical, Chemical & Toxicological Characteristics	: Not classified
Numerical Measures of Toxicity (Urea)	: LD50 Oral Rat = 8471 mg/kg

Numerical Measures of Toxicity (Ammonia) : LD50 Inhalation Rat = 5.1 mg/l (exposure time 1 h)
LD50 Inhalation Rat = 2000 ppm/4h (exposure time 4 h)

Chronic Toxicity : None expected under normal conditions of use.

Carcinogenicity :

Product Name: Urea Solution – High Purity 32.5%					
ACGIH	IARC	EPA	NIOSH	NTP	OSHA
-	-	-	-	-	-

TARGET ORGANS : N/A

12. Ecological Information

Ecotoxicity : **Urea**
LC50 Fish 1 = 16200 -18300 mg/l (exposure time 96 h – Species: Poecilia reticulata)
EC50 Daphnia 1 = 3910 mg/l (exposure time 48 h – Species: Daphnia magna [static])
Ammonia
LC50 Fish 1 = 0.44 mg/l (exposure time 96 h – Species: Cyprinus carpio)
EC50 Daphnia 1 = 25.4 mg/l (exposure 48 h – Species: Daphnia magna)
LC50 Fish 2 = 0.26 - 4.6 mg/l (exposure 96 h – Species: Lepomis macrochirus)

Persistence and Degradability : Not available

Bioaccumulative Potential :

Product/Ingredient	Log _{Pow}	BCF	Potential
Urea	-1.59 (at 25°C)	<10	-

Mobility in Soil : Not available

13. Disposal Considerations

Dispose of waste material in accordance with all local, regional, national, and international regulations.
Additional Information: Spilled chemical can be used as fertilizer.

14. Transport Information

This product is not regulated for transport as a hazardous material, substance or dangerous good.

15. Regulatory Information

SARA 302 Extremely Hazardous Substances (EHS) : No chemical in this product is listed as an Extremely Hazardous Substance (EHS) under Section 302 of EPCRA.

SARA 304 Extremely Hazardous Substances (EHS) Release Notification : No chemical in this product is listed as an Extremely Hazardous Substance (EHS) which, if released to the environment in quantities at or above the substance's Reportable Quantity (RQ), would require reporting to the SERC and LEPC under Section 304 of EPCRA.

SARA 311/312 Hazards

SARA 311/312 Hazards				
Acute	Chronic	Flammability	Pressure	Reactivity
No	No	No	No	No

SARA 313 Reportable Chemicals : No chemical in this product is subject to annual emissions, transfers, or waste management reporting under the Community-Right-to-Know provisions of EPCRA Section 313, also known as the Toxic Release Inventory (TRI) Report or Form R.

CERCLA Hazardous Substances : No chemical in this product is listed as a CERCLA hazardous substance subject to the National Response Center (NRC) release reporting requirements.

Clean Air Act (CAA) Section 112(r) Air Pollutants : No chemical in this product is listed as an air pollutant under the U.S. Clean Air Act, Section 112(r) (40 CFR 61).

California Prop 65 Chemicals : This product does not contain any chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

Hazard Label Warning : This product does not require hazard label warnings.

TSCA (Toxic Substances Control Act) : All chemical substances in this product are listed on the U.S. TSCA Inventory List.

ACRONYMS:

- CAS # - Chemical Abstract Services Registry Number
- CFR - Code of Federal Regulations
- CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
- EPCRA - Emergency Planning and Community Right-to-Know Act
- LEPC - Local Emergency Planning Committee
- SERC - State Emergency Response Commission

16. Other Information

Revision date :
Supersedes :
First Issue : 09/28/2017
Section(s) changed since last revision : First Issue SDS

IMPORTANT! Read this SDS before use or disposal of this product. Pass along the information to employees and any other persons who could be exposed to the product to be sure that they are aware of the information before use or other exposure. This SDS has been prepared in accordance with the Globally Harmonized System of Chemical and Labeling of Chemicals (GHS) Fifth Edition and the OSHA Hazard Communication Standard [29 CFR 1910.1200]. The SDS information is based on sources believed to be reliable. Available data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse are beyond our control; **Hill Brothers Chemical Company** makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy

of the information contained herein and disclaims all liability for reliance thereon. Additional information may be necessary or helpful for specific conditions and circumstances of use. It is the user's responsibility to determine the suitability of this product and to evaluate risks and exercise appropriate precautions for protection of employees and others prior to use.



Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

Division of Water Quality

1001 I Street, Sacramento, California 95814 ♦ (916) 341-5455
Mailing Address: P.O. Box 2231, Sacramento, California 95812
FAX (916) 341-5808 ♦ Internet Address: <http://www.waterboards.ca.gov>



Arnold Schwarzenegger
Governor

AUG 31 2010

To: Underground Storage Tank Local Regulatory Agencies and Interested Persons

REGULATORY STATUS OF UNDERGROUND STORAGE TANKS STORING AQUEOUS UREA SOLUTION

The State Water Resources Control Board (State Water Board) is providing guidance on the regulatory status of underground storage tanks (USTs) storing aqueous urea, which is commonly referred to as diesel exhaust fluid or DEF.

DEF is approximately 30 percent aqueous solution of urea used in Selective Catalytic Reduction technology and may contain a small amount of ammonia. As explained in the United States Environmental Protection Agency's (EPA)'s letter dated September 22, 2009, a copy of which is enclosed, the international standard for DEF allows no more than 0.2 percent by weight of alkalinity, measured as ammonia, to be present in the solution. Manufacturers indicate, however, that the actual amount of ammonia in the solution should be much less than 0.2 percent, and ideally there should be no ammonia in the solution. The EPA has determined that USTs storing DEF are not regulated under the federal act. (See September 22, 2009 letter from EPA.)

The State Water Board has determined that DEF, with an approximate urea solution of 30 percent, is not a hazardous substance as defined in Section 25281 of the Health and Safety Code and, accordingly, USTs storing DEF are not regulated under Chapter 6.7 of the Health and Safety Code.

If you have any questions about this matter, please contact Ms. Laura Fisher at (916) 341-5780 or via email at lfisher@waterboards.ca.gov.

Sincerely,

Kevin L. Graves, Manager
Underground Storage Tank Program



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 22 2009

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Regulatory Status of Underground Diesel Exhaust Fluid Tanks

FROM: Carolyn Hoskinson, Director
Office of Underground Storage Tanks

TO: EPA UST/LUST Regional Program Managers
State UST Program Managers

This memorandum responds to questions from states on the regulatory status of underground storage tanks (USTs) containing diesel exhaust fluid (DEF). Specifically, states have asked whether EPA regulates USTs containing DEF under the federal UST regulations in 40 CFR Part 280. According to these regulations, an UST is regulated if it contains petroleum or hazardous substances; however, a number of UST systems are excluded from the Part 280 requirements. One of the exclusions applies to "[a]ny UST system that contains a *de minimis* concentration of regulated substances" (§280.10(b)(5)). The regulations do not specify a *de minimis* quantity, but do allow the implementing agency to determine *de minimis* concentrations on a case-by-case basis.

DEF is a 32.5 percent aqueous solution of urea used in Selective Catalytic Reduction (SCR) technology as one way to reduce nitrogen oxide emissions from heavy-duty diesel engines, as required by EPA's "2007 Heavy-Duty Highway Rule." Although aqueous urea is neither petroleum nor a hazardous substance, the DEF solution may contain a small amount of ammonia, which is a regulated substance. According to DEF manufacturers, any amount of ammonia present in DEF is considered to be a contaminant. To address this contamination concern, the industry has set a very strict limit on the maximum amount of ammonia allowed in solution. The international standard for DEF allows no more than 0.2 percent by weight of alkalinity, measured as ammonia, to be present in solution. Although 0.2 percent is the maximum allowed limit according to the international standard, manufacturers indicate that the actual amount of ammonia in solution should be much less than 0.2 percent, and ideally there should be no ammonia in solution. Since EPA expects that the presence of ammonia in a DEF UST will be minimal, it is EPA's view that DEF USTs meet the *de minimis* exclusion and thus are not regulated as hazardous substance USTs under the federal UST regulations.

In addition, EPA expects USTs storing DEF will be both compatible and secondarily contained. International standards for DEF set strict requirements for compatibility in order to avoid product contamination caused by materials in the storage tank system degrading into the DEF and also to prevent releases due to corrosion. Further, manufacturers recommend that underground DEF tank systems use secondary containment technologies with interstitial monitoring. EPA expects that owners and operators of DEF USTs will generally follow these industry, manufacturer, and international standards for the storage of DEF in USTs.

If in the future EPA finds that ammonia released from DEF USTs endangers human health and the environment, EPA may revisit the *de minimis* exclusion analysis contained in this memorandum. It is important to note that some states may choose to be more stringent than federal regulations and require DEF USTs to fully comply with state UST regulations.

If you have any questions about this interpretation, please contact Andrea Barbery at barbery.andrea@epa.gov or 703/603-7137.

cc: OUST Management
OUST Regional Liaisons
Kathy Nam, OGC