Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	Diesel Exhaust Fluid / STARFIRE
Supplier/Manufacturer	Coolants Plus Inc. 2570 Van Hook Ave. Hmailton, Ohio, 45015 USA Tel: 1-888-258-8723 Fax: 513-893-1101
Material uses	Other non-specified industry: Cleaning of waste gases
Validation date	06.01.2015
Responsible name	Josh Wiley
E-mail address of person responsible for this SDS	Joshwiley@coolantsplus.com
In case of emergency	For Chemical Emergency Spill Leak Fire Exposure or Accident Call CHEMTREC Day or Night Domestic North America: 800-424-9300 International: 703-527-3887 (collect calls accepted)
Product type	Liquid

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Color	Colorless, Yellowish
Physical state	Liquid
Odor	Characteristic
Hazard statements	May cause respiratory tract, eye and skin irritation. Contains material that may cause target organ damage, based on animal data. Slightly irritating to the eyes, skin and respiratory system. Avoid breathing vapor or mist. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Contains material that may cause target organ damage, based on animal data. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
OSHA/HCS status	This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Routes of entry	Dermal contact. Eye contact. Inhalation.

2. HAZARDS IDENTIFICATION

POTENTIAL ACUTE HEALTH EFFECTS

Inhalation	Slightly irritating to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	No known significant effects or critical hazards.
Skin	Slightly irritating to the skin.
Eyes	Slightly irritating to the eyes.

POTENTIAL CHRONIC HEALTH EFFECTS

Chronic effects	Contains material that may cause target organ damage, based on animal data.
Carcinogenicity	No known significant effects or critical hazards.
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 may cause damage to the following organs: skin, eyes.

OVER-EXPOSURESIGNS/SYMPTOMS

Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing
Ingestion	No specific data.
Skin	Adverse symptoms may include the following: irritation redness
Eyes	Adverse symptoms may include the following: irritation watering redness
Medical conditions aggravated by over-exposure	Pre-existing disorders involving any target organs mentioned in this SDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS number	%
Urea	57-13-6	32.5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. FIRST AID MEASURES

Eye contact	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
Inhalation	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
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-aiders	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.
Notes to physician	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. FIRE-FIGHTING MEASURES

Flammability of the product	In a fire or if heated,a pressure increase will occur and the container may burst.

EXTINGUISHING MEDIA

Suitable	Use an extinguishing agent suitable for the surrounding fire.
Not suitable	None known.
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.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, ammonia.
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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
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).

METHODS FOR CLEANING UP

Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, base ments or confined areas. Wash spillages into an 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). 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.

7. 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. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Storage	Store between the following temperatures: -5 to 30°C (23 to 86°F). Store in accordance with local regulations. 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. 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredient	Exposure limits
Urea	AIHA WEEL (United States, 1/2009). TWA: 10 mg/m³ 8 hour(s).

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. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
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	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 at all times when handling chemical products if a risk assessment indicates this is necessary. >8 hours (breakthrough time): natural rubber (latex)
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	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.
Personal protective equipment (Pictograms)	

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Flash point	Closed cup: Not applicable.
Color	Colorless. Yellowish.
Odor	Characteristic.
pH	10 [Conc. (% w/w): 10%]
Boiling/condensation point	103°C (217,4°F)
Melting/freezing point	-11°C (12,2°F)
Density	1,087 to 1,093 g/cm3 [20°C (68°F)]
Viscosity	Dynamic: 0,14 mPa·s (0,14 cP)

10. STABILITY AND REACTIVITY

Chemical stability	The product is stable.
Conditions to avoid	Store and use away from heat, sparks, open flame or any other ignition source.
Materials to avoid	Reactive or incompatible with the following materials: oxidizing materials. Highly reactive with nitrites.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.

11. TOXICOLOGICAL INFORMATION

POTENTIAL ACUTE HEALTH AFFECTS

Inhalation	Slightly irritating to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	No known significant effects or critical hazards.
Eyes	Slightly irritating to the eyes.
Skin	Slightly irritating to the skin.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Product/ingredient name	Result	Species	Dose	Exposure
Urea	LD50 Intraperitoneal	Rat	>5 g/kg	—
	LD50 Intratracheal	Rat	567 mg/kg	—
	LD50 Intravenous	Rat	5300 mg/kg	—
	LD50 Oral	Rat	8471 mg/kg	—
	LD50 Subcutaneous	Rat	8200 mg/kg	—
	TDLo Oral	Rat	750 mg/kg	—

12. ECOLOGICAL INFORMATION

Ecotoxicity No known significant effects or critical hazards.

AQUATIC ECOTOXICITY

Product/ ingredient name	Test	Result	Species	Exposure
Urea	—	Acute EC50 6573,1 mg/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia Neonate- <24 hours	48 Hours
	—	Acute EC50 3910000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <24 hours	48 Hours
	—	Acute LC50 >1000 mg/L Marine water	Crustaceans - Amphipod - Chaetogammarus marinus - Young - 5 mm	48 Hours
	—	Acute LC50 90100 ug/L Fresh water	Fish - Rohu - Labeo rohita - FRY - 0,8 g	96 hours
	—	Acute LC50 83700 ug/L Fresh water	Fish - Rohu - Labeo rohita - FRY - 0,8 g	96 hours
	—	Acute LC50 72600 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 Hours
	—	Acute LC50 66800 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 Hours
	—	Acute LC50 65800 ug/L Fresh water	Fish - Rohu - Labeo rohita - FRY - 0,8 g	96 Hours
	—	Acute LC50 64700 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 Hours

12. ECOLOGICAL INFORMATION

Ecotoxicity No known significant effects or critical hazards.

AQUATIC ECOTOXICITY

Product/ ingredient name	Test	Result	Species	Exposure
Urea	—	Acute LC50 23400 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 Hours
	—	Acute LC50 22500 ug/L	Fish - Mozambique tilapia - Tilapia mossambica	96 Hours
	—	Acute LC50 16700 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 Hours
	—	Acute LC50 5000 ug/L Fresh Water	Fish - Giant gourami - Colisa fasciata - Fingerling	96 Hours

PERSISTENCE/DEGRADABILITY

Product/ ingredient name	Test	Result	Dose	Inoculum
Urea	OECD 302B	>96 % - Readily	—	—
	302B Inherent	16 days	—	—
	Biodegradability: Zahn-Wellens/EMPA Test			

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by- products should at all times 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.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. TRANSPORT INFORMATION

DOT/IMDG/IATA

Not regulated.

15. REGULATORY INFORMATION

HCS CLASSIFICATION

Target organ effects

U.S. FEDERAL REGULATIONS

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

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Urea

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Urea: Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

CLEAN AIR ACT SECTION 112(B) HAZARDOUS AIR POLLUTANTS (HAPS)

Not listed.

CLEAN AIR ACT SECTION 602 CLASS I SUBSTANCES

Not listed.

CLEAN AIR ACT SECTION 602 CLASS II SUBSTANCES

Not listed.

DEA LIST I CHEMICALS (PRECURSOR CHEMICALS)

Not listed.

DEA LIST II CHEMICALS (ESSENTIAL CHEMICALS)

Not listed.

STATE REGULATIONS

Connecticut Carcinogen Reporting: None of the components are listed. Connecticut Hazardous Material Survey: None of the components are listed.

Florida substances: None of the components are listed.

Illinois Chemical Safety Act: None of the components are listed.

Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.

Louisiana Reporting: None of the components are listed.

Louisiana Spill: None of the components are listed.

Massachusetts Spill: None of the components are listed.

Massachusetts Substances: None of the components are listed.

Michigan Critical Material: None of the components are listed.

15. REGULATORY INFORMATION

Minnesota Hazardous Substances: None of the components are listed.

New Jersey Hazardous Substances: None of the components are listed.

New Jersey Spill: None of the components are listed.

New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.

New York Acutely Hazardous Substances: None of the components are listed.

New York Toxic Chemical Release Reporting: None of the components are listed.

Pennsylvania RTK Hazardous Substances: None of the components are listed.

Rhode Island Hazardous Substances: None of the components are listed.

UNITED STATES INVENTORY (TSCA 8B) INTERNATIONAL REGULATIONS

All components are listed or exempted.

INTERNATIONAL LISTS

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

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

Japan inventory: All components are listed or exempted.

Korea inventory: All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.

Canadian Regulations, WHMIS : This product is not a WHMIS controlled product in Canada.

CHEMICAL WEAPONS CONVENTION LIST SCHEDULE I CHEMICALS

Not listed.

CHEMICAL WEAPONS CONVENTION LIST SCHEDULE II CHEMICALS

Not listed.

CHEMICAL WEAPONS CONVENTION LIST SCHEDULE III CHEMICALS

Not listed.

16. OTHER INFORMATION

LABEL REQUIREMENTS

May cause respiratory tract, eye and skin irritation. Contains material that may cause target organ damage, based on animal data.

HAZARDOUS MATERIAL INFORMATION SYSTEM (U.S.A.)

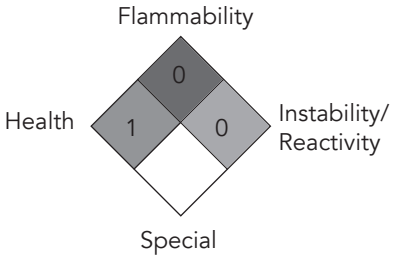
HEALTH	* 1
FLAMMABILITY	0
PHYSICAL HAZARDS	0

16. OTHER INFORMATION

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A.)



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VERSION

1

Indicates information that has changed from previously issued version.

NOTICE TO READER

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.