

Air Shield™ DEF

MSDS No.:LT16603a

MSDS Preparation Date (dd/mm/yyyy): 24/09/2009

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## MATERIAL SAFETY DATA SHEET

### SECTION 1: IDENTIFICATION

**Product identifier** : **Air Shield™ DEF**

**Product Code(s)** : 728802 (330 Gallon / 1250 L Tote tank), 729565 (275 Gallon / 1040 L Tote), 728801 (55 Gallon / 208 L Drum), 729566 (2.5 Gallon / 9.46 L Bottle), 728770 (1 Gallon / 3.875 L Bottle).

**Product Use** : Stabilized urea premix for use in reducing nitrogen oxides in diesel engines.

**Chemical Family** : Mixture.

**Supplier's name and address:**  
**Cummins Filtration**  
 1200 Fleetguard Road  
 Cookeville, TN, U.S.A.  
 38506

**Manufacturer's name and address:**  
 Refer to Supplier

**Information Telephone #** : (931) 526-9551 (Hours of operation: 24 Hours per day, 7 days per week)

**24 Hr. Emergency Tel #** : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

### SECTION 2 - HAZARDS IDENTIFICATION

**Classification** : WHMIS classification:  
 This product is not a WHMIS controlled product in Canada. It does not meet any of the criteria for a controlled product provided in Part IV of the Controlled Products Regulations (CPR).

OSHA: This material is not classified as hazardous under OSHA regulations (29 CFR Part 1910.1200).

**Emergency Overview** : Clear, colourless liquid. Ammonia odour.  
 May be harmful if swallowed. May cause nausea, vomiting, headache and other central nervous system effects. May be mildly irritating to eyes and skin.

### POTENTIAL HEALTH EFFECTS:

#### Signs and symptoms of short-term (acute) exposure

*Inhalation* : Under normal conditions of use, harmful effects are not expected. However, if the product is sprayed it may cause symptoms such as sore throat, sneezing, coughing and shortness of breath.

*Skin* : May cause mild skin irritation on prolonged contact.

*Eyes* : May cause temporary irritation.

*Ingestion* : May be harmful if swallowed. May cause irritation of mouth, throat, and stomach. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

#### Effects of long-term (chronic) exposure

: None known or reported by the manufacturer.

**Carcinogenic status** : See TOXICOLOGICAL INFORMATION, Section 11.

**Additional health hazards** : See TOXICOLOGICAL INFORMATION, Section 11.

**Potential environmental effects** : See ECOLOGICAL INFORMATION, Section 12.

### SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>Wt.%</u>
Urea	57-13-6	30.00 - 35.00

#### SECTION 4 - FIRST AID MEASURES

- Inhalation** : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. Obtain medical attention if symptoms develop and persist.
- Skin contact** : Remove contaminated clothing. Wash contaminated area with soap and lukewarm (not hot), gently running water. If irritation persists, seek prompt medical attention. Launder clothing before reuse.
- Eye contact** : Flush with plenty of water. If irritation persists, seek prompt medical attention.
- Ingestion** : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician if symptoms develop and persist.
- Notes For Physician** : Treat symptomatically.

#### SECTION 5 - FIRE FIGHTING MEASURES

**Fire hazards/conditions of flammability**

- : Not flammable under normal conditions of handling. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

**Flammability classification (OSHA 29 CFR 1910.1200)**

- : Non-flammable.

**Oxidizing properties**

- : None known.

**Explosion data: Sensitivity to mechanical impact / static discharge**

- : Not expected to be sensitive to mechanical impact or static discharge.

**Suitable extinguishing media**

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

**Special fire-fighting procedures/equipment**

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

**Hazardous combustion products**

- : Carbon oxides, nitrogen oxides, ammonia, biuret, cyanuric acid and other irritating fumes and smoke.

**NFPA Rating**

- |                  |                        |                       |                         |            |
|------------------|------------------------|-----------------------|-------------------------|------------|
| 0 - Minimal      | 1 - Slight             | 2 - Moderate          | 3 - Serious             | 4 - Severe |
| <hr/>            |                        |                       |                         |            |
| <i>Health:</i> 1 | <i>Flammability:</i> 0 | <i>Instability:</i> 0 | <i>Special Hazards:</i> | None       |

#### SECTION 6 - ACCIDENTAL RELEASE MEASURES

**Personal precautions**

- : Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Wear suitable protective equipment. Refer to protective measures listed in sections 7 and 8.

**Environmental precautions**

- : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

**Spill response/cleanup**

- : Ventilate area of release. Stop spill or leak at source if safely possible. Contain and absorb spilled material with inert, non-combustible absorbent material, such as sand. Shovel into suitable container for disposal. Refer to Section 13 for disposal of contaminated material. Notify the appropriate authorities as required.

**Prohibited materials**

- : None known.

**Special spill response procedures**

- : In case of a transportation accident, contact CHEMTREC at 1-800-424-9300 or International at 1-703-527-3887. If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002).  
US CERCLA Reportable quantity (RQ): None reported.

#### SECTION 7 - HANDLING AND STORAGE

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- Safe Handling procedures** : Use with adequate ventilation. Avoid breathing vapour or mist. Avoid contact with eyes, skin and clothing. For prolonged use and specialized handling operations (e.g. spraying operation, large engine repair operations) - refer to section 8 for protective clothing and equipment. Wash with soap and water after handling. Keep away from extreme heat and flame. Avoid contact with strong oxidizing agents. Use caution when opening cap. Keep containers tightly closed when not in use. Keep out of the reach of children.
- Storage requirements** : Store in a cool, dry, well-ventilated area. Keep away from incompatibles. Inspect periodically for damage or leaks. Avoid long-term storage in direct sunlight.
- Incompatible materials** : Strong oxidizing agents (e.g. hydrogen peroxide, nitric acid) and strong acids.
- Special packaging materials** : Not available.

## SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

<u>Exposure Limits</u>				
<u>Ingredients</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Urea	10 mg/m <sup>3</sup> (AIHA WEEL)	N/Av	N/Av	N/Av

### Ventilation and engineering measures

- : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

### Respiratory protection

- : None required under normal conditions. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Seek advice from respiratory protection specialists.

### Skin protection

- : None required under normal conditions. For prolonged skin exposure, gloves impervious to the material are recommended. Advice should be sought from glove suppliers.

### Eye / face protection

- : None required under normal conditions. If splashing might occur, wear eye protection such as safety glasses with side shields.

### Other protective equipment

- : Emergency showers and eyewash facilities should be nearby. Other equipment may be required depending on workplace standards.

### General hygiene considerations

- : Avoid breathing vapour or mist. Avoid contact with eyes, skin and clothing. When using do not eat or drink. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b>	: Liquid.	<b>Appearance</b>	: Clear, colourless liquid.
<b>Odour</b>	: ammoniacal	<b>Odour threshold</b>	: N/Av
<b>pH</b>	: 9.5		
<b>Boiling point</b>	: N/Av	<b>Specific gravity</b>	: 1.094 @ 25°C (77°F)
<b>Melting/Freezing point</b>	: - 11°C (12°F)	<b>Coefficient of water/oil distribution</b>	: N/Av
<b>Vapour pressure (mmHg @ 20° C / 68° F)</b>	: N/Av	<b>Solubility in water</b>	: Complete
<b>Vapour density (Air = 1)</b>	: N/Av	<b>Evaporation rate (n-Butyl acetate = 1)</b>	: N/Av
<b>Volatile organic Compounds (VOC's)</b>	: N/Av	<b>Volatiles (% by weight)</b>	: N/Av
<b>Flash point</b>	: N/Av		
<b>Flash point Method</b>	: COC	<b>Auto-ignition temperature</b>	: N/Av
<b>Lower flammable limit (% by vol.)</b>	: N/Av	<b>Upper flammable limit (% by vol.)</b>	: N/Av



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**Flame Projection Length** : N/Ap **Flashback observed** : N/Ap

**Section 10: Stability And Reactivity**

**Stability and reactivity** : Stable under the recommended storage and handling conditions prescribed.  
**Hazardous polymerization** : Will not occur.  
**Conditions to avoid** : Avoid excessive heat, sparks and open flame.  
**Materials To Avoid And Incompatibility** : Incompatible materials (see Section 7).  
**Hazardous decomposition products** : None known, refer to hazardous combustion products in Section 5.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

**Target organs** : Eyes, skin, respiratory system, digestive system, central nervous system.  
**Routes of exposure** : *Inhalation:* YES *Skin Absorption:* NO *Skin & Eyes:* YES *Ingestion:* YES  
**Toxicological data** : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

<u>Ingredients</u>	<u>LC<sub>50</sub>(4hr)</u>		<u>LD<sub>50</sub></u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>	
Urea	N/Av	8471 mg/kg	8200 mg/kg	

**Carcinogenic status** : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.  
**Reproductive effects** : None known.  
**Teratogenicity** : None known.  
**Mutagenicity** : None known.  
**Epidemiology** : Not available.  
**Sensitization to material** : Not expected to be a skin or respiratory sensitizer.  
**Synergistic materials** : Not available.  
**Irritancy** : May be mildly irritating to eyes and skin.  
**other important hazards** : None known.  
**Conditions aggravated by overexposure** : None known.




**SECTION 12 - ECOLOGICAL INFORMATION**

**Ecotoxicity** : No data is available on the product itself. The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.  
**Mobility** : No information available.  
**Persistence** : No information available.  
**Bioaccumulation potential** : No information available.  
**Other Adverse Environmental effects** : No information available.

**SECTION 13 - DISPOSAL CONSIDERATIONS**

**Handling for Disposal** : Handle waste according to recommendations in Section 7.  
**Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.  
**RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

**SECTION 14: TRANSPORT INFORMATION**

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
49CFR/DOT	None	Not regulated.	Not regulated	none	
<b>49CFR/DOT Additional information</b>	None.				
TDG	None	Not regulated.	Not regulated	-None-	
<b>TDG Additional information</b>	None.				
ICAO/IATA	None	Not regulated.	Not regulated	-None-	
<b>ICAO/IATA Additional information</b>	None.				
IMDG	None	Not regulated.	Not regulated	-None-	
<b>IMDG Additional information</b>	None.				

**SECTION 15 - REGULATORY INFORMATION**

**US Federal Information:**

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): There are no ingredients present above reportable levels, which have reportable quantities.

EPA: This material is not classified as hazardous under U.S. EPA regulations.

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: No Extremely Hazardous Substances are present in this material.

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: No hazards resulting from the material as supplied. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This material is not subject to SARA notification requirements, since it does not contain any Toxic Chemical constituents above de minimus concentrations.

**US State Right to Know Laws:**

New Jersey Labeling Requirements: This product contains the following substances required to be disclosed on product labeling: Water (CAS # 7732-18-5; > 60%); Urea (CAS # 57-13-6; 32%); Ammonia (CAS # 7664-41-7; < 0.3%); Biuret (CAS # Unknown; < 0.3%); Carbonate (CAS # Unknown; < 0.3%); formaldehyde (CAS # 50-00-0; < 0.01%). Ammonia is considered a hazardous substance in the State of New Jersey.

California Proposition 65: This product contains a chemical known to the State of California to cause cancer. This product contains: formaldehyde; chromium; Nickel. These chemicals are present at less than 0.1%.



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**International Information:**

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.**

**SECTION 16 - OTHER INFORMATION**

**HMIS Rating** : \* - Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe  
*Health:* 1 *Flammability:* 0 *Reactivity:* 0

**Legend**

- : ACGIH: American Conference of Governmental Industrial Hygienists  
AIHA: American Industrial Hygiene Association  
CAS: Chemical Abstract Services  
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980  
CFR: Code of Federal Regulations  
CNS: Central Nervous System  
COC: Cleveland Open Cup  
CSA: Canadian Standards Association  
DOT: Department of Transportation  
EPA: Environmental Protection Agency  
HMIS: Hazardous Materials Identification System  
HSDB: Hazardous Substances Data Bank  
IARC: International Agency for Research on Cancer  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organisation  
IMDG: International Maritime Dangerous Goods  
Inh: Inhalation  
LC: Lethal Concentration  
LD: Lethal Dose  
N/Ap: Not Applicable  
N/Av: Not Available  
NFPA: National Fire Protection Association  
NIOSH: National Institute of Occupational Safety and Health  
NTP: National Toxicology Program  
OSHA: Occupational Safety and Health Administration  
PEL: Permissible exposure limit  
RCRA: Resource Conservation and Recovery Act  
RTECS: Registry of Toxic Effects of Chemical Substances  
SARA: Superfund Amendments and Reauthorization Act  
STEL: Short Term Exposure Limit  
TLV: Threshold Limit Values  
TWA: Time Weighted Average  
WEEL: Workplace Environmental Exposure Level  
WHMIS: Workplace Hazardous Materials Identification System

**References**

- : 1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2009.  
2. International Agency for Research on Cancer Monographs, searched 2009.  
3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2009 (Chempendium and RTECS).  
4. Material Safety Data Sheet from manufacturer.  
5. US EPA Title III List of Lists - October 2006 version.  
6. California Proposition 65 List - September 11, 2009 version.





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<p><b>Prepared for:</b> Cummins Filtration Cookeville, Tennessee, U.S.A., 38506 Telephone: (931) 526-9551 <a href="http://www.cumminsfiltration.com/html/en/index.html">http://www.cumminsfiltration.com/html/en/index.html</a> Please direct all enquiries to Cummins Filtration.</p>	
<p><b>Prepared by:</b> ICC The Compliance Center Inc. <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	

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