

# DEFendal™ Diesel Exhaust Fluid-MSDS

---

## Section I – Chemical Product and Company Information

---

Product Name: DEFendal Diesel Exhaust Fluid  
Product Code: 4103  
Product Use: NOx reduction agent

Preparation Date: 11/20/09  
Revision Date:

Manufacturer: KOST USA, INC.  
Address: 8118 Corporate Way, Suite 105  
Mason, OH 45040



Telephone: (513) 583-7070  
Emergency Telephone Number: 1-800-424-9300 (Chemtrec)

---

## Section II – Hazardous Ingredients/Identity Information

---

Hazardous Components	CAS Number	%	PEL (OSHA)	TLV (ACGIH)
Urea	57-13-6	30 – 35	-	-

This product is not a WHMIS controlled substance.

---

## Section III Physical/Chemical Characteristics

---

Boiling Point:	Not Determined
Specific Gravity @ 68°F (20°C):	1.09
Vapor Pressure @ 20°C:	220 mmHg
Solubility in Water:	Soluble
Appearance and Odor:	Colorless liquid, mild ammoniacal odor
Freezing Point:	- 74°F (-59°C )
pH:	Typically 10.0

---

## Section IV Fire & Explosion Data

---

Flash Point:	Not Applicable
Method Used:	Not Applicable
Auto-Ignition Temp:	Not Applicable
Upper Explosion Limits:	Not Applicable
Lower Explosion Limits:	Not Applicable

Extinguisher Media: Water recommended, all standard agents are acceptable.

Special Firefighting Procedures: Wear sufficient self-contained breathing apparatus approved by NIOSH. Use water spray to keep containers cool

Unusual Fire and Explosion Hazards: Remove all individuals from area who are not properly trained in fire fighting. Material is not a flammable or combustible liquid. When in confined spaces, only enter fire space with full bunker gear (including self contained breathing apparatus) when fighting a fire involving this product. Cool surrounding equipment, fire-exposed containers and structures with water. Container areas exposed to direct flame contact should be cooled with large quantities of water (500 gallons water per minute flame impingement exposure) to prevent weakening of container structure. Keep away from extreme heat and open flame.

National Fire Protection Association (NFPA): Health: 1 Flammability: 0 Reactivity: 0  
Other n/a

Hazardous Materials Identification System (HMIS): Health: 1 Flammability: 0  
Reactivity: 0

---

## Section V Physical Hazards (Reactivity Data)

---

Stability:     Stable X     Unstable

Conditions to Avoid: The evaporation residue should not be heated above its melting point, 133°C: Decomposes to hazardous products.

Incompatibility: Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products: Ammonia and carbon dioxide are formed when heated excessively.

Hazardous Polymerization:   May occur     Will not occur X

---

## Section VI Health Hazards

---

### Signs and Symptoms of Exposure

#### Potential Acute Health Effect:

Eyes: Liquid and mist contact may irritate mildly.

Skin: Liquid contact may irritate mildly with repeated or prolonged exposure

Inhalation: Mist or vapors may irritate respiratory tract

Ingestion: A single dose of 100 grams has reportedly caused mild symptoms of central nervous system depression (drowsiness, slow reflexes and slurred speech).

May cause gastrointestinal disturbances (irritation, nausea, vomiting and diarrhea).

**Potential Chronic Health Effects:**

No potential chronic effects known. Urea is a naturally occurring chemical in the body. It is an end product of protein metabolism and is excreted in urine.

**Emergency and First Aid Procedures:**

Eyes: Flush with large amounts of cold water for at least 15 minutes. Do not let victim rub eyes. If irritation develops, contact a physician immediately.

Skin: Wash affected area with soap and water. Do not reuse clothing soaked with this product until laundered. If irritation develops, contact a physician immediately.

Inhalation: If inhaled, move to fresh air. If victim has stopped breathing give artificial respiration, preferably, mouth to mouth. Contact a physician immediately.

Ingestion: Do not induce vomiting. Keep affected person warm and treat for shock. Get medical attention. A single dose of 100 grams has reportedly caused mild symptoms of central nervous system depression (drowsiness, etc)

Oral LD<sub>50</sub>: > 14,000 mg/kg, Rat

---

**Section VII Special Precautions/ Spill & Leak Procedures**

---

Handling: Avoid breathing this material and getting it in contact with your skin and eyes. Wash hands after handling and before eating. Avoid container damage while handling. Keep out of the reach of children and animals.

Storage: Store in closed, labeled containers in a cool, dry well ventilated area. Maintain closure of bungs. Keep face clear of tank or tank car openings. Store at temperatures below 50°C (122°F). Avoid containers, piping or fittings made of brass, bronze, other copper-bearing alloys or galvanized metal.

Do not reuse container. Avoid container damage while storing.

Spill & Leak Response: Do not allow spilled material to enter sewers or streams. Add dry material (such as diatomaceous earth, dry clay or sand) to absorb (if large spill, dike to contain). Using recommended protective equipment, pick up bulk of spill and containerize for recovery or disposal. Flush area with water to remove residues. If spill could potentially enter any waterway contact local authorities

Waste Disposal: All recovered material should be packaged, labeled, transported and disposed or reclaimed in conformance with Good Engineering Practices.

Comply with all applicable governmental regulations. Avoid land filling of liquids. Reclaim where possible.

---

**Section VIII Special Protection Information**

---

Respiratory Protection: Not generally required. If misting conditions prevail, wear a NIOSH approved respirator (either a disposable dust/mist mask breathing apparatus or supplied-air respirator depending upon conditions)

Protective Gloves: Impervious gloves and full work clothing.

Eye Protection: Chemical goggles. Do not wear contact lenses.

Other Protective Wear: Not generally required.

Work Practices: Read label for instructions in use of product.

---

**Section IX Other Hazard Information**

---

None

Carcinogenicity:

NTP: No

IARC: No

ACGIH: No

Biodegradation

Ultimately biodegradable

---

**Section X Transport Information**

---

US Department of Transportation Classification

This material is not subject to DOT regulations under 49 CFR Parts 171 - 180

Canadian TDG Classification:

This product is not regulated under the Canadian Transportation of Dangerous Goods Regulations for transport by road and rail

---

**Section XI Additional Regulatory Information**

---

OSHA (Occupational Safety, and Health Administration)

29 CFR 1910.1200 Hazardous Chemical: yes

SARA (Superfund Amendment and Reauthorization Act)

Section 311: Hazardous Chemical - yes

Acute - yes

Chronic - no

Fire - no

Sudden Release - no

Reactive - no

Section 313: Toxic Chemical – no

TSCA (Toxic Substance Control Act)

All of the ingredients in this product are listed on the TSCA Inventory.

DSL (Domestic Substances List)

All of the ingredients in this product are listed on the Canadian DSL.

California Proposition 65

This product contains no listed substances known to the State of California to cause cancer, birth defects, or other reproductive harm, at levels which would require a warning under the statute.

---

Disclaimer: Information presented herein has been compiled from information provided to us by our suppliers and other sources considered to be dependable and is accurate and reliable to the best of our knowledge. Nothing herein is to be construed as recommending any practice or the use of any product in violation of any patent or in violation of any law or regulation. It is the users' responsibility to determine the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us.