

## 1. Identification

**Product identifier** Diesel Cooling System Additive

**Other means of identification**

**FIR No.** 184845

**Recommended use** Antifreeze/Coolant Additive (Reinhibitor) For Use In Diesel Engine Cooling Systems

**Recommended restrictions** None known.

### Manufacturer/Importer/Supplier/Distributor information

#### Supplier

**Company Name** Ford Motor Company

**Address** Attention: MSDS Information, P.O. Box 1899  
Dearborn, Michigan 48121  
USA

**Telephone** 1-800-392-3673

**MSDS Information** 1-800-448-2063  
msds@brownart.com

#### Emergency telephone numbers

Poison Control Center: USA and Canada: 1-800-959-3673  
INFOTRAC (Transportation): USA and Canada 1-800-535-5053

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards**

Serious eye damage/eye irritation	Category 2A
Germ cell mutagenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity, single exposure	Category 1
Specific target organ toxicity, repeated exposure	Category 2

**Environmental hazards**

Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 3

**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Danger

**Hazard statement** Causes serious eye irritation. Suspected of causing genetic defects. Suspected of damaging fertility or the unborn child. Causes damage to organs. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

#### Precautionary statement

**Prevention** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

**Response** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If exposed: Call a poison center/doctor. If exposed or concerned: Get medical advice/attention.

<b>Storage</b>	Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	Irritating to respiratory system. May be irritating to the skin. May be harmful if swallowed. May be harmful if absorbed through skin.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Disodium molybdate		7631-95-0	1 - < 3
POTASSIUM NITRATE		7757-79-1	1 - < 3
sodium nitrite		7632-00-0	1 - < 3

Specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting.
<b>Most important symptoms/effects, acute and delayed</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Prolonged exposure may cause chronic effects.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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**Methods and materials for containment and cleaning up**

This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

**7. Handling and storage**

**Precautions for safe handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

**8. Exposure controls/personal protection**

**Occupational exposure limits**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
Disodium molybdate (CAS 7631-95-0)	PEL	5 mg/m3

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Disodium molybdate (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable fraction.

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Provide eyewash station. Use adequate ventilation to control airborne concentrations below the exposure limits/guidelines. If user operations generate a vapor, dust and/or mist, use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits/guidelines.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection**

Suitable chemical protective gloves should be worn when the potential exists for prolonged or repeated skin exposure. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Nitrile gloves are recommended. Neoprene gloves are recommended.

**Other**

Wear suitable protective clothing. Wear appropriate chemical resistant clothing if applicable.

**Respiratory protection**

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of OSHA Respiratory Protection Standard 29 CFR 1910.134 and/or Canadian Standard CSA Z94.4.

**Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties**

**Appearance**

**Physical state**

Liquid.

<b>Form</b>	Liquid.
<b>Color</b>	Blue.
<b>Odor</b>	Odorless.
<b>Odor threshold</b>	Not available.
<b>pH</b>	10.5 ASTM D1293
<b>pH concentration</b>	100 % v/v
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	212 °F (100 °C)
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	760 mm Hg
<b>Vapor pressure temp.</b>	212 °F (100 °C)
<b>Vapor density</b>	Not available.
<b>Relative density</b>	1.13 - 1.15
<b>Relative density temperature</b>	39.2 °F (4 °C)
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	COMPLETE
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents. Strong acids. Reducing agents. Halogenated materials. Alcohols.
<b>Hazardous decomposition products</b>	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Nitrogen oxides (NOx). Oxides of phosphorus. Sulfur oxides.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause damage to organs by inhalation. May cause damage to organs through prolonged or repeated exposure by inhalation. Prolonged inhalation may be harmful. Irritating to respiratory system.
<b>Skin contact</b>	May be irritating to the skin. May be harmful in contact with skin.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

## Information on toxicological effects

### Acute toxicity

Components	Species	Calculated/Test Results
POTASSIUM NITRATE (CAS 7757-79-1)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rabbit	1166 mg/kg
sodium nitrite (CAS 7632-00-0)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	5.5 mg/l, 4 Hours
<i>Oral</i>		
LD50	Mouse	175 mg/kg
	Rabbit	186 mg/kg
	Rat	85 mg/kg
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.	
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.	
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.	
<b>Germ cell mutagenicity</b>	Suspected of causing genetic defects.	
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>		
Not listed.		
<b>Reproductive toxicity</b>	Suspected of damaging fertility or the unborn child.	
<b>Specific target organ toxicity - single exposure</b>	Causes damage to organs. Blood.	
<b>Specific target organ toxicity - repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure. Blood.	
<b>Aspiration hazard</b>	Not an aspiration hazard.	
<b>Chronic effects</b>	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.	

## 12. Ecological information

**Ecotoxicity** Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

### Ecotoxicity

Components	Species	Calculated/Test Results
Disodium molybdate (CAS 7631-95-0)		
<b>Aquatic</b>		
Crustacea	EC50	Tubificid worm (Tubifex tubifex) 42.48 - 65.64 mg/l, 48 hours
Fish	LC50	Striped bass (Morone saxatilis) > 79.8 mg/l, 96 hours
POTASSIUM NITRATE (CAS 7757-79-1)		
<b>Aquatic</b>		
Fish	LC50	Western mosquitofish (Gambusia affinis) 22.5 mg/l, 96 hours
sodium nitrite (CAS 7632-00-0)		
<b>Aquatic</b>		
Crustacea	EC50	Greasyback shrimp (Metapenaeus ensis) 16.14 - 26.61 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss) 0.15 - 0.25 mg/l, 96 hours

<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	No data available.
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

#### DOT

<Unspecified>

Not regulated as dangerous goods.

#### IATA

<Unspecified>

Not regulated as dangerous goods.

#### IMDG

<Unspecified>

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

### 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

sodium nitrite (CAS 7632-00-0) 1.0 % One-Time Export Notification only.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

sodium nitrite (CAS 7632-00-0) Listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes  
 Delayed Hazard - Yes  
 Fire Hazard - No  
 Pressure Hazard - No  
 Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
POTASSIUM NITRATE	7757-79-1	1 - < 3
sodium nitrite	7632-00-0	1 - < 3

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.**US state regulations****US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. Massachusetts RTK - Substance List**

POTASSIUM NITRATE (CAS 7757-79-1)

sodium nitrite (CAS 7632-00-0)

**US. New Jersey Worker and Community Right-to-Know Act**

POTASSIUM NITRATE (CAS 7757-79-1)

sodium nitrite (CAS 7632-00-0)

**US. Pennsylvania Worker and Community Right-to-Know Law**

POTASSIUM NITRATE (CAS 7757-79-1)

sodium nitrite (CAS 7632-00-0)

**US. Rhode Island RTK**

POTASSIUM NITRATE (CAS 7757-79-1)

sodium nitrite (CAS 7632-00-0)

**US. California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**International Inventories**

All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

**16. Other information, including date of preparation or last revision**

<b>Issue date</b>	05-15-2015
<b>Version #</b>	01
<b>HMIS® ratings</b>	Health: 2 Flammability: 0 Physical hazard: 1
<b>NFPA ratings</b>	Health: 2 Flammability: 0 Instability: 1

**Preparation Information and Disclaimer**

This document was prepared by FCSD-Toxicology, Ford Motor Company, Diagnostic Service Center II, 1800 Fairlane Drive, Allen Park, MI 48101, USA, based in part on information provided by the manufacturer. The information on this data sheet represents our current data and is accurate to the best of our knowledge as to the proper handling of this product under normal conditions and in accordance with the application specified on the packaging and/or technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user. To the extent that there are any differences between this product's Safety Data Sheet (SDS) and the consumer packaged product labels, the SDS should be followed.

**Part number(s)** VC-8