



Diesel Defender Concentrate

SECTION 1: IDENTIFICATION

- 1.1 Product identifier:** Diesel Defender Concentrate
- Other means of identification:**
Non-applicable
- 1.2 Recommended use of the chemical and restrictions on use:**
Relevant uses (Professional users): Diesel Additive
Relevant uses (Industrial user): Diesel Additive
For Professional users/Industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Name, U.S. address, and U.S. telephone number of the chemical manufacturer, importer, or other responsible party:**
- | | |
|--|---|
| R.B. Howes & Co. Inc.
60 Ocean State Drive
02852 North Kingstown - RI - United States
Phone: 4012945500
SDS@howesproducts.com
www.howesproducts.com | |
| Manufacturer
R.B. Howes & Co., Inc.
3511 North Ohio Street
Wichita, KS, 67219
USA
T 401-294-5500, 1-800 GET HOWES (438-4693) | Distributor
White Line Distributors
3625 Weston Rd Unit 24
North York, ON M9L 1V9 - Canada
T +1 416-747-8509 |
| Manufacturer
EMCO Chemical Packaging
2100 Commonwealth Ave.
North Chicago, IL 60064 - USA
T 847-689-2200 | Distributor
Associated Truckers Supply
44195 Yale Rd
Chilliwack, BC V2R 4H2 - Canada
T +1 604-795-5700 |
- 1.4 Emergency phone number:** CHEMTREC 1 (800) 424-9300

SECTION 2: HAZARD(S) IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
29 CFR 1910.1200:
Classification of the chemical in accordance with paragraph (d)(1)(i) of §1910.1200
Acute Tox. 3: Acute inhalation toxicity, Category 3, H331
Acute Tox. 4: Acute toxicity if swallowed, Category 4, H302
Acute Tox. 5: Acute toxicity on contact with skin, Category 5, H313
Aquatic Acute 2: Hazardous to the aquatic environment, acute hazard, Category 2, H401
Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard, Category 2, H411
Asp. Tox. 1: Aspiration hazard, Category 1, H304
Carc. 1B: Carcinogenicity, Category 1B, H350
Eye Irrit. 2A: Eye irritation, Category 2A, H319
Flam. Liq. 3: Flammable liquids, Category 3, H226
Skin Irrit. 2: Skin irritation, Category 2, H315
Skin Sens. 1A: Sensitisation, skin, Category 1A, H317
- 2.2 Label elements:**
29 CFR 1910.1200:
Danger
- 
- Hazard statements:**

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SECTION 2: HAZARD(S) IDENTIFICATION (continued)

Acute Tox. 3: H331 - Toxic if inhaled.
Acute Tox. 4: H302 - Harmful if swallowed.
Acute Tox. 5: H313 - May be harmful in contact with skin.
Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.
Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways.
Carc. 1B: H350 - May cause cancer.
Eye Irrit. 2A: H319 - Causes serious eye irritation.
Flam. Liq. 3: H226 - Flammable liquid and vapour.
Skin Irrit. 2: H315 - Causes skin irritation.
Skin Sens. 1A: H317 - May cause an allergic skin reaction.

Precautionary statements:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280: Wear protective gloves/face protection/protective clothing/respiratory protection/protective footwear.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313: IF exposed or concerned: Get medical advice/attention.
P370+P378: In case of fire: Use Foam extinguisher (AB), Dry Chemical Powder (ABC) Fire Extinguisher, Carbon dioxide extinguisher (BC) to extinguish.
P501: Dispose of contents and / or containers in accordance with regulations on hazardous waste or packaging and packaging waste respectively.

Substances that contribute to the classification

Hydrocarbons, C10-C13, aromatics, >1% naphthalene; 1,2,4-trimethylbenzene; Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7; Naphthalene

Additional labeling:



WARNING

This product can expose you to chemicals including Naphthalene; Cumene, which is [are] known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

2.3 Hazards not otherwise classified (HNOC):

Non-applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances:

Non-applicable

3.2 Mixtures:

Chemical description: Mixture composed of additives in solvents

Components:

Remaining components are non-hazardous and/or present at amounts below reportable limits. The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200. Therefore, in accordance with Appendix D to § 1910.1200, the product contains:

Identification	Chemical name	Concentration
CAS: 64742-94-5	Hydrocarbons, C10-C13, aromatics, >1% naphthalene	50 - <75%
CAS: Trade Secret	Long Chain Alkenyl Acid	5 - <15%
CAS: 8008-20-6	Kerosine (petroleum)	5 - <15%
CAS: 95-63-6	1,2,4-trimethylbenzene	5 - <15%
CAS: 64742-95-6	Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7	5 - <15%
CAS: 104-76-7	2-ethylhexanol	5 - <15%

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)

Identification	Chemical name	Concentration
CAS: 91-20-3	Naphthalene	5 - <15%
CAS: 64742-47-8	Distillates (petroleum), hydrotreated light	<15%
CAS: 64742-53-6	Distillates (petroleum), hydrotreated light naphthenic , < 3 % IP 346, < 20.5 cSt @ 40°C	<15%
CAS: 98-94-2	Cyclohexyldimethylamine	1 - <5%
CAS: 112-57-2	Tetraethylenepentamine	<1%
CAS: 98-82-8	Cumene	<1%
CAS: 109-28-4	N-[3-(dimethylamino)propyl]oleamide	<1%

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

SECTION 4: FIRST-AID MEASURES

4.1 Description of necessary measures:

Request medical assistance immediately, showing the SDS of this product.

By inhalation:

Remove the affected person from the area of exposure, provide them with fresh air, and keep them at rest. In severe cases such as cardiorespiratory arrest, administer artificial respiration techniques if properly trained (CPR, oxygen provision, etc.) and seek immediate medical assistance.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration:

Request medical assistance immediately, showing the SDS of this product. Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. In the case of loss of consciousness do not administer anything orally unless supervised by a doctor. Rinse out the mouth and throat, as they may have been affected during ingestion. Keep the person affected at rest.

4.2 Most important symptoms/effects, acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Non-applicable

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable (and unsuitable) extinguishing media:

Suitable extinguishing media:

Foam extinguisher (AB), Dry Chemical Powder (ABC) Fire Extinguisher, Carbon dioxide extinguisher (BC)

Unsuitable extinguishing media:

Water jet

5.2 Specific hazards arising from the chemical:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Special protective equipment and precautions for fire-fighters:

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SECTION 5: FIRE-FIGHTING MEASURES (continued)

Depending on the magnitude of the fire it may be necessary to use full protective clothing and Self Contained Breathing Apparatus. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

Additional provisions:

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Only properly trained personnel should be involved in firefighting. Evacuate nonessential personnel from the fire area. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Remove any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

6.2 Environmental precautions:

Avoid at all cost any type of spillage into an aqueous medium. Contain the product absorbed appropriately in hermetically sealed containers. Notify the relevant authority in case of exposure to the general public or the environment.

6.3 Methods and materials for containment and cleaning up:

For accidental releases in excess of reportable quantities (RQ) (Table 302.4), refer to 40 CFR 302 for detailed instructions concerning reporting requirements and notify the National Response Center (800) 424-8802.

Prevent the entrance of product in drains, sewers or watercourses. Absorb the spill using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. Collect the product in appropriate containers and manage it according to current legislation.

Spillages in water or sea:

Small spillages:

Contain spillage using barriers or similar equipment. Use suitable absorbents for collection and treat the waste in accordance with current regulations.

Large spillages:

If possible, contain spillage in open water using barriers or similar equipment. If this is not possible, try to control its spread and collect the product with suitable mechanical means. Always consult experts before using dispersants and make sure you have the necessary approvals if they are to be used. Treat the waste according to current regulations.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- General precautions for safe use

Comply with the current standards 29 CFR 1910 Occupational Safety and Health Standards. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Because the product is a flammable liquid, storage should meet the requirement of 29 CFR 1910.106, Flammable and Combustible Liquids Code. Transfer in well ventilated areas, preferably through localized extraction. Fully control sources of ignition (mobile phones, sparks, ...) and ventilate during cleaning operations. Avoid the existence of dangerous atmospheres inside containers, applying inertization systems where possible. Transfer at a slow speed to avoid the creation of electrostatic charges. Against the possibility of electrostatic charges: ensure a perfect equipotential connection, always use groundings, do not wear work clothes made of acrylic fibres, preferably wearing cotton clothing and conductive footwear. Comply with the essential security requirements for equipment and systems and with the minimum requirements for protecting the security and health of workers. Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

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SECTION 7: HANDLING AND STORAGE (continued)

Due to the danger of this product for the environment it is recommended to use it within an area containing contamination control barriers in case of spillage, as well as having absorbent material in close proximity.

7.2 Conditions for safe storage, including any incompatibilities:

A.- Specific storage requirements

Store in a cool, dry, well-ventilated location

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be assessed in the workplace:

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

Identification	Occupational exposure limits		
Cumene ⁽¹⁾ CAS: 98-82-8	8-hour TWA PEL Ceiling Values - TWA PEL	50 ppm	245 mg/m ³
Naphthalene CAS: 91-20-3	8-hour TWA PEL Ceiling Values - TWA PEL	10 ppm	50 mg/m ³

US. ACGIH Threshold Limit Values (2022):

Identification	Occupational exposure limits		
1,2,4-trimethylbenzene CAS: 95-63-6	TLV-TWA TLV-STEL	10 ppm	
Mesitylene CAS: 108-67-8	TLV-TWA TLV-STEL	10 ppm	
Cumene ⁽¹⁾ CAS: 98-82-8	TLV-TWA TLV-STEL	5 ppm	
Naphthalene CAS: 91-20-3	TLV-TWA TLV-STEL	10 ppm	
Kerosine (petroleum) CAS: 8008-20-6	TLV-TWA TLV-STEL		200 mg/m ³

CALIFORNIA- TABLE AC-1 PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS:

Identification	Occupational exposure limits		
Distillates (petroleum), hydrotreated light naphthenic, < 3 % IP 346, < 20.5 cSt @ 40°C CAS: 64742-53-6	PEL STEL	100 ppm	400 mg/m ³
Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7 CAS: 64742-95-6	PEL STEL	100 ppm	400 mg/m ³
1,2,4-trimethylbenzene CAS: 95-63-6	PEL STEL	25 ppm	125 mg/m ³
Mesitylene CAS: 108-67-8	PEL STEL	25 ppm	125 mg/m ³
Cumene ⁽¹⁾ CAS: 98-82-8	PEL STEL	50 ppm	245 mg/m ³
Hydrocarbons, C10-C13, aromatics, >1% naphthalene CAS: 64742-94-5	PEL STEL	100 ppm	400 mg/m ³
Naphthalene CAS: 91-20-3	PEL STEL	0.1 ppm	0.5 mg/m ³

NIOSH: Immediately Dangerous To Life or Health (IDLH) Values:

Identification	Occupational exposure limits		
Cumene ⁽¹⁾ CAS: 98-82-8	TWA IDLH Value		900 ppm
Naphthalene CAS: 91-20-3	TWA IDLH Value		250 ppm

⁽¹⁾ Skin

Biological limit values:

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Biological Exposure Indices (BEIs®) - ACGIH

Identification	BEIs®	Determinant	Sampling Time
Naphthalene CAS: 91-20-3	0.0025 mg/L	1-Hydroxypyrene in urine	End of shift at end of workweek

8.2 Appropriate engineering controls:

A.- Individual protection measures, such as personal protective equipment

Always provide effective general and, when necessary, local exhaust ventilation to maintain the ambient workplace atmosphere below the exposure limits.. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For additional information see subsection 7.1. All information contained herein is a recommendation, the information on clothing performance must be combined with professional judgment, and a clear understanding of the clothing application, to provide the best protection to the worker. All chemical protective clothing use must be based on a hazard assessment to determine the risks for exposure to chemicals and other hazards. Conduct hazard assessments in accordance with 29 CFR 1910.132.

B.- Respiratory protection

Pictogram	PPE	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment. Use respirator in accordance with manufacturer's use limitations and OSHA standard 1910.134 (29CFR)

C.- Specific protection for the hands

Pictogram	PPE	Remarks
 Mandatory hand protection	Chemical protective gloves (Material: Fluorine Rubber, Breakthrough time: > 480 min, Thickness: 0.7 mm)	The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin. Use gloves in accordance with manufacturer's use limitations and OSHA standard 1910.138 (29CFR)

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

D.- Eye and face protection

Pictogram	PPE	Remarks
 Mandatory face protection	Face shield	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. Use this PPE in accordance with manufacturer's use limitations and OSHA standard 1910.133 (29CFR)

E.- Bodily protection

Pictogram	PPE	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks, with antistatic and fireproof properties	For professional use only. Clean periodically according to the manufacturer's instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk, with antistatic and heat resistant properties	Replace boots at any sign of deterioration.

F.- Additional emergency measures

It is advised to implement additional emergency equipments in workplaces that are particularly exposed to the product or in situations where risk assessments highlight the necessity of such equipments.

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

Environmental exposure controls:

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

To comply with environmental protection regulations, it is recommended to prevent any spillage of the product and its container. For more detailed information, please refer to subsection 7.1.D.

40 CFR Part 59 (VOC):

V.O.C.(weight-percent):	29.92 % weight
V.O.C. at 68 °F:	268.88 kg/m ³ (268.88 g/L)

California Air Resources Board (CARB) - VOC Regulatory:

V.O.C.(weight-percent):	29.92 % weight
V.O.C. at 68 °F:	268.88 kg/m ³ (268.88 g/L)

South Coast Air Quality Management District (AQMD) - VOC Regulatory:

V.O.C.(weight-percent):	29.92 % weight
V.O.C. at 68 °F:	268.88 kg/m ³ (268.88 g/L)

Ozone Transport Commission (OTC) Rules - VOC Regulatory:

V.O.C.(weight-percent):	29.92 % weight
V.O.C. at 68 °F:	268.88 kg/m ³ (268.88 g/L)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 68 °F:	Liquid
Appearance:	Characteristic
Color:	Amber, Brown
Odor:	Characteristic

Volatility:

Boiling point at atmospheric pressure:	Non-applicable *
Vapour pressure at 68 °F:	Non-applicable *
Vapour pressure at 122 °F:	Non-applicable *
Evaporation rate at 68 °F:	Non-applicable *

Product description:

Density at 68 °F:	~898.7 kg/m ³
Relative density at 68 °F:	Non-applicable *
Dynamic viscosity at 68 °F:	Non-applicable *
Kinematic viscosity at 68 °F:	Non-applicable *
Kinematic viscosity at 104 °F:	<=20.5 mm ² /s
Concentration:	Non-applicable *
pH:	Non-applicable *
Vapour density at 68 °F:	Non-applicable *
Partition coefficient n-octanol/water 68 °F:	Non-applicable *
Solubility in water at 68 °F:	Non-applicable *
Solubility properties:	Non-applicable *
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *

Flammability:

Flash Point:	>140 °F
Flammability (solid, gas):	Non-applicable *

*Non-applicable due to the nature of the product, not providing information property of its hazards.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Autoignition temperature: Non-applicable *

Lower flammability limit: Non-applicable *

Upper flammability limit: Non-applicable *

Particle characteristics:

Median equivalent diameter: Non-applicable *

9.2 Other information:

Information with regard to physical hazard classes:

Explosive properties: Non-applicable *

Oxidising properties: Non-applicable *

Corrosive to metals: Non-applicable *

Heat of combustion: Non-applicable *

Aerosols-total percentage (by mass) of flammable components: Non-applicable *

Other safety characteristics:

Surface tension at 68 °F: Non-applicable *

Refraction index: Non-applicable *

MIR (Maximum Incremental Reactivity): Non-applicable *

*Non-applicable due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7 from Safety Data Sheet.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Precaution	Not applicable	Risk of combustion	Avoid direct impact	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

B- Inhalation (acute effect):

- Acute toxicity : Inhalation after prolonged exposure may be lethal.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Causes serious eye irritation.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Exposure to this product can cause cancer. For more specific information on the possible health effects see section 2.
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitising effects. For more information see section 3.
- Skin: Prolonged contact with the skin can result in episodes of allergic contact dermatitis.

F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for inhalation. For more information see section 3.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

H- Aspiration hazard:

May be fatal if swallowed and enters airways.

Other information:

Non-applicable

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7 CAS: 64742-95-6	LD50 oral	2100 mg/kg	Rat
	LD50 dermal	2000 mg/kg	Rabbit
	LC50 inhalation vapour		
Cyclohexyldimethylamine CAS: 98-94-2	LD50 oral	289 mg/kg	Rat
	LD50 dermal	380 mg/kg	Rat
	LC50 inhalation vapour	3 mg/L	
1,2,4-trimethylbenzene CAS: 95-63-6	LD50 oral	3400 mg/kg	Rat
	LD50 dermal	3160 mg/kg	Rabbit
	LC50 inhalation vapour	10.2 mg/L	Rat
2-ethylhexanol CAS: 104-76-7	LD50 oral	3000 mg/kg	Rat
	LD50 dermal	2100 mg/kg	Rabbit
	LC50 inhalation vapour	11 mg/L	
Naphthalene CAS: 91-20-3	LD50 oral	533 mg/kg	Rat
	LD50 dermal	16000 mg/kg	Rat
	LC50 inhalation dust		
Kerosine (petroleum) CAS: 8008-20-6	LD50 oral	5500 mg/kg	Rat
	LD50 dermal	5500 mg/kg	Rabbit
	LC50 inhalation vapour		
Tetraethylenepentamine CAS: 112-57-2	LD50 oral	500 mg/kg	Rat
	LD50 dermal	1100 mg/kg	Rat
	LC50 inhalation vapour		

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Identification	Acute toxicity		Genus
Cumene CAS: 98-82-8	LD50 oral	2700 mg/kg	
	LD50 dermal		
	LC50 inhalation vapour		

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

Toxic to aquatic life with long lasting effects.

12.1 Ecotoxicity (aquatic and terrestrial, where available):

Acute toxicity:

Identification	Concentration	Species	Genus
Hydrocarbons, C10-C13, aromatics, >1% naphthalene CAS: 64742-94-5	LC50 >1 - 10 mg/L (96 h)		Fish
	EC50 >1 - 10 mg/L (48 h)		Crustacean
	EC50 >1 - 10 mg/L (72 h)		Algae
1,2,4-trimethylbenzene CAS: 95-63-6	LC50 7.72 mg/L (96 h)	Pimephales promelas	Fish
	EC50 6.14 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 Non-applicable		
Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7 CAS: 64742-95-6	LC50 >1 - 10 mg/L (96 h)		Fish
	EC50 >1 - 10 mg/L (48 h)		Crustacean
	EC50 >1 - 10 mg/L (72 h)		Algae
2-ethylhexanol CAS: 104-76-7	LC50 28 mg/L (96 h)	Pimephales promelas	Fish
	EC50 39 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 11.5 mg/L (72 h)	Scenedesmus subspicatus	Algae
Naphthalene CAS: 91-20-3	LC50 1.6 mg/L (96 h)	Oncorhynchus mykiss	Fish
	EC50 2.2 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 Non-applicable		
Distillates (petroleum), hydrotreated light CAS: 64742-47-8	LC50 >1 - 10 mg/L (96 h)		Fish
	EC50 >1 - 10 mg/L (48 h)		Crustacean
	EC50 >1 - 10 mg/L (72 h)		Algae
Cyclohexyldimethylamine CAS: 98-94-2	LC50 28 mg/L (96 h)	Leuciscus idus	Fish
	EC50 75 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 2 mg/L (72 h)	Desmodesmus subspicatus	Algae
Tetraethylenepentamine CAS: 112-57-2	LC50 420 mg/L (96 h)	Poecilia reticulata	Fish
	EC50 24.1 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 2.1 mg/L (72 h)	Selenastrum capricornutum	Algae
Cumene CAS: 98-82-8	LC50 2.7 mg/L (96 h)	Salmo gairdneri	Fish
	EC50 10.8 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 2.6 mg/L (72 h)	Selenastrum capricornutum	Algae
N-[3-(dimethylamino)propyl]oleamide CAS: 109-28-4	LC50 0.22 mg/L (96 h)	Danio rerio	Fish
	EC50 0.28 mg/L (48 h)	Daphnia magna	Crustacean
	EC50 0.005 mg/L (72 h)	Pseudokirchneriella subcapitata	Algae

Chronic toxicity:

Identification	Concentration	Species	Genus
Naphthalene CAS: 91-20-3	NOEC 0.37 mg/L	Oncorhynchus kisutch	Fish
	NOEC 0.59 mg/L	Daphnia pulex	Crustacean
Cumene CAS: 98-82-8	NOEC 0.38 mg/L	Pimephales promelas	Fish
	NOEC 0.35 mg/L	Daphnia magna	Crustacean
N-[3-(dimethylamino)propyl]oleamide CAS: 109-28-4	NOEC Non-applicable		
	NOEC 0.048 mg/L	Daphnia magna	Crustacean

12.2 Persistence and degradability:

Substance-specific information:

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Diesel Defender Concentrate

SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Degradability		Biodegradability	
1,2,4-trimethylbenzene CAS: 95-63-6	BOD5	Non-applicable	Concentration	100 mg/L
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	18 %
Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7 CAS: 64742-95-6	BOD5	0.19 g O2/g	Concentration	Non-applicable
	COD	0.44 g O2/g	Period	Non-applicable
	BOD5/COD	0.43	% Biodegradable	Non-applicable
Naphthalene CAS: 91-20-3	BOD5	Non-applicable	Concentration	Non-applicable
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	74 %
Cyclohexyldimethylamine CAS: 98-94-2	BOD5	Non-applicable	Concentration	20 mg/L
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	95 %
Cumene CAS: 98-82-8	BOD5	Non-applicable	Concentration	100 mg/L
	COD	Non-applicable	Period	14 days
	BOD5/COD	Non-applicable	% Biodegradable	40 %
N-[3-(dimethylamino)propyl]oleamide CAS: 109-28-4	BOD5	Non-applicable	Concentration	26 mg/L
	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	91 %

12.3 Bioaccumulative potential:

Substance-specific information:

Identification	Bioaccumulation potential	
Kerosine (petroleum) CAS: 8008-20-6	BCF	5800
	Pow Log	5.25
	Potential	Very High
1,2,4-trimethylbenzene CAS: 95-63-6	BCF	154
	Pow Log	3.78
	Potential	High
Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7 CAS: 64742-95-6	BCF	
	Pow Log	4
	Potential	
2-ethylhexanol CAS: 104-76-7	BCF	13
	Pow Log	2.73
	Potential	Low
Distillates (petroleum), hydrotreated light CAS: 64742-47-8	BCF	130
	Pow Log	3.3
	Potential	High
Cyclohexyldimethylamine CAS: 98-94-2	BCF	
	Pow Log	2.31
	Potential	
Cumene CAS: 98-82-8	BCF	120
	Pow Log	3.66
	Potential	High

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
1,2,4-trimethylbenzene CAS: 95-63-6	Koc	537	Henry	624.16 Pa·m ³ /mol
	Conclusion	Low	Dry soil	Yes
	Surface tension	2.919E-2 N/m (77 °F)	Moist soil	Yes
2-ethylhexanol CAS: 104-76-7	Koc	Non-applicable	Henry	Non-applicable
	Conclusion	Non-applicable	Dry soil	Non-applicable
	Surface tension	2.82E-2 N/m (77 °F)	Moist soil	Non-applicable
Naphthalene CAS: 91-20-3	Koc	Non-applicable	Henry	Non-applicable
	Conclusion	Non-applicable	Dry soil	Non-applicable
	Surface tension	1.306E-2 N/m (531.93 °F)	Moist soil	Non-applicable

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Diesel Defender Concentrate

SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification	Absorption/desorption		Volatility	
Cyclohexyldimethylamine CAS: 98-94-2	Koc	69.49	Henry	6.73 Pa·m ³ /mol
	Conclusion	High	Dry soil	Non-applicable
	Surface tension	Non-applicable	Moist soil	Non-applicable
Tetraethylenepentamine CAS: 112-57-2	Koc	3.6	Henry	3E-15 Pa·m ³ /mol
	Conclusion	Very High	Dry soil	Non-applicable
	Surface tension	4.35E-2 N/m (77 °F)	Moist soil	Non-applicable
Cumene CAS: 98-82-8	Koc	Non-applicable	Henry	Non-applicable
	Conclusion	Non-applicable	Dry soil	Non-applicable
	Surface tension	2.769E-2 N/m (77 °F)	Moist soil	Non-applicable

12.5 Results of PBT and vPvB assessment:

Non-applicable

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

The next characteristic per RCRA could apply to the unused product if it becomes a waste material: Corrosivity, Ignitability. The next EPA hazardous waste number could apply: D002, D001.

IT IS THE RESPONSIBILITY OF THE WASTE GENERATOR TO EVALUATE WHETHER HIS WASTES ARE HAZARDOUS BY CHARACTERISTICS OR LISTING.

Waste management (disposal and evaluation):

Follow RCRA framework and EPA regulation for to ensure that hazardous waste is managed safely and properly. Waste should not be disposed of to drains. Remind, It is the responsibility of the waste generator to evaluate whether his wastes are hazardous by characteristics or listing. See section 6 for further information about Accidental release measures.

Regulations related to waste management:

Legislation related to waste management:

40 CFR Solid Wastes - Part 239 through 282.

State regulatory requirements for generators may be more stringent than those in the federal program. Be sure to check the state's policies.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land:

With regard to 49 CFR on the Transport of Dangerous Goods:



- 14.1 UN number:** NA1993
- 14.2 UN proper shipping name:** Combustible liquid, n.o.s. (Kerosine (petroleum); Hydrocarbons, C10-C13, aromatics, >1% naphthalene)
- 14.3 Transport hazard class(es):** 3
- Labels:** 3
- 14.4 Packing group, if applicable:** III
- 14.5 Marine pollutant:** Yes
- 14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises**
- Physico-Chemical properties: see section 9
- Limited quantities: 5 L
- 49 CFR 173.150: It can be shipped as a non-hazardous material if the container is under 120 gallons
- Under 49 CFR 171.4, Except when transporting aboard a vessel, the requirements of this subchapter specific to marine pollutants do not apply to non-bulk packagings transported by motor vehicles, rail cars, and aircraft
- 14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):** Non-applicable

Transport of dangerous goods by sea:

With regard to IMDG 42-24:

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Diesel Defender Concentrate

SECTION 14: TRANSPORT INFORMATION (continued)



- 14.1 UN number:** NA1993
14.2 UN proper shipping name: Combustible liquid, n.o.s. (Kerosine (petroleum); Hydrocarbons, C10-C13, aromatics, >1% naphthalene)
14.3 Transport hazard class(es): 3
Labels: 3
14.4 Packing group, if applicable: III
14.5 Marine pollutant: Yes
14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises
Special regulations: Non-applicable
EmS Codes:
Physico-Chemical properties: see section 9
Limited quantities: 0
Segregation group: Non-applicable
14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Non-applicable

Transport of dangerous goods by air:

With regard to IATA/ICAO 2025:



- 14.1 UN number:** NA1993
14.2 UN proper shipping name: Combustible liquid, n.o.s. (Kerosine (petroleum); Hydrocarbons, C10-C13, aromatics, >1% naphthalene)
14.3 Transport hazard class(es): 3
Labels: 3
14.4 Packing group, if applicable: III
14.5 Marine pollutant: Yes
14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises
Physico-Chemical properties: see section 9
14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Non-applicable

SECTION 15: REGULATORY INFORMATION

- 15.1 Safety, health and environmental regulations specific for the product in question:**

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Diesel Defender Concentrate

SECTION 15: REGULATORY INFORMATION (continued)

- CALIFORNIA LABOR CODE - The Hazardous Substances List: *1,2,4-trimethylbenzene (95-63-6)* ; *Naphthalene (91-20-3)* ; *Cumene (98-82-8)*
- California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Birth defects or other reproductive harm: Non-applicable
- California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Cancer: *Naphthalene (91-20-3)* ; *Cumene (98-82-8)*
- CANADA-Domestic Substances List (DSL): *Hydrocarbons, C10-C13, aromatics, >1% naphthalene (64742-94-5)* ; *Kerosine (petroleum) (8008-20-6)* ; *1,2,4-trimethylbenzene (95-63-6)* ; *Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7 (64742-95-6)* ; *2-ethylhexanol (104-76-7)* ; *Naphthalene (91-20-3)* ; *Distillates (petroleum), hydrotreated light (64742-47-8)* ; *Distillates (petroleum), hydrotreated light naphthenic, < 3 % IP 346, < 20.5 cSt @ 40°C (64742-53-6)* ; *Cyclohexyldimethylamine (98-94-2)* ; *Tetraethylenepentamine (112-57-2)* ; *Cumene (98-82-8)* ; *N-[3-(dimethylamino)propyl]oleamide (109-28-4)*
- CANADA-Non-Domestic Substances List (NDSL): Non-applicable
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantities: *Naphthalene (91-20-3)* - *U165* ; *Cumene (98-82-8)* - *U055*
- Hazardous Air Pollutants (Clean Air Act): *Naphthalene (91-20-3)* ; *Cumene (98-82-8)*
- Massachusetts RTK - Substance List: *Hydrocarbons, C10-C13, aromatics, >1% naphthalene (64742-94-5)* ; *Kerosine (petroleum) (8008-20-6)* ; *1,2,4-trimethylbenzene (95-63-6)* ; *Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7 (64742-95-6)* ; *2-ethylhexanol (104-76-7)* ; *Naphthalene (91-20-3)* ; *Distillates (petroleum), hydrotreated light naphthenic, < 3 % IP 346, < 20.5 cSt @ 40°C (64742-53-6)* ; *Tetraethylenepentamine (112-57-2)* ; *Cumene (98-82-8)*
- Minnesota - Hazardous substances ERTK: *Hydrocarbons, C10-C13, aromatics, >1% naphthalene (64742-94-5)* ; *1,2,4-trimethylbenzene (95-63-6)* ; *Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7 (64742-95-6)* ; *Naphthalene (91-20-3)* ; *Distillates (petroleum), hydrotreated light naphthenic, < 3 % IP 346, < 20.5 cSt @ 40°C (64742-53-6)* ; *Cumene (98-82-8)*
- New Jersey Worker and Community Right-to-Know Act: *Hydrocarbons, C10-C13, aromatics, >1% naphthalene (64742-94-5)* ; *Kerosine (petroleum) (8008-20-6)* ; *1,2,4-trimethylbenzene (95-63-6)* ; *Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7 (64742-95-6)* ; *Naphthalene (91-20-3)* ; *Distillates (petroleum), hydrotreated light naphthenic, < 3 % IP 346, < 20.5 cSt @ 40°C (64742-53-6)* ; *Cyclohexyldimethylamine (98-94-2)* ; *Tetraethylenepentamine (112-57-2)* ; *Cumene (98-82-8)*
- New York RTK - Substance list: *Kerosine (petroleum) (8008-20-6)* ; *1,2,4-trimethylbenzene (95-63-6)* ; *Naphthalene (91-20-3)* ; *Cyclohexyldimethylamine (98-94-2)* ; *Tetraethylenepentamine (112-57-2)* ; *Cumene (98-82-8)*
- NTP (National Toxicology Program): *Hydrocarbons, C10-C13, aromatics, >1% naphthalene (64742-94-5)* ; *Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7 (64742-95-6)* ; *Naphthalene (91-20-3)* ; *Distillates (petroleum), hydrotreated light naphthenic, < 3 % IP 346, < 20.5 cSt @ 40°C (64742-53-6)* ; *Cumene (98-82-8)*
- OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096): Non-applicable
- Pennsylvania Worker and Community Right-to-Know Law: *Hydrocarbons, C10-C13, aromatics, >1% naphthalene (64742-94-5)* ; *Kerosine (petroleum) (8008-20-6)* ; *Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7 (64742-95-6)* ; *2-ethylhexanol (104-76-7)* ; *Naphthalene (91-20-3)* ; *Distillates (petroleum), hydrotreated light naphthenic, < 3 % IP 346, < 20.5 cSt @ 40°C (64742-53-6)* ; *Tetraethylenepentamine (112-57-2)*
- Protective Action Criteria (PAC) with AEGLs, ERPGs, & TEELs: *1,2,4-trimethylbenzene (95-63-6)* ; *2-ethylhexanol (104-76-7)* ; *Naphthalene (91-20-3)* ; *Cyclohexyldimethylamine (98-94-2)* ; *Tetraethylenepentamine (112-57-2)* ; *Cumene (98-82-8)*
- Rhode Island - Hazardous substances RTK: *Naphthalene (91-20-3)* ; *Cumene (98-82-8)*
- SB-258 Cleaning Product Right to Know Act : *Kerosine (petroleum) (8008-20-6)* ; *1,2,4-trimethylbenzene (95-63-6)* ; *Solvent naphtha (petroleum), light arom., < 0.1 % EC 200-753-7 (64742-95-6)* ; *Naphthalene (91-20-3)* ; *Distillates (petroleum), hydrotreated light naphthenic, < 3 % IP 346, < 20.5 cSt @ 40°C (64742-53-6)* ; *Cumene (98-82-8)*
- The Toxic Substances Control Act (TSCA) : All components are listed on or exempt.
- Toxic chemical release reporting under EPCRA section 313 (40 CFR Part 372): *1,2,4-trimethylbenzene (95-63-6)* ; *Naphthalene (91-20-3)* ; *Cumene (98-82-8)*

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information provided in this safety data sheet as a foundation for conducting workplace-specific risk assessments. These assessments will help establish the appropriate risk prevention measures for handling, using, storing, and disposing of this product.

Other legislation:

Take into consideration other applicable federal, state, and local laws and local regulations.

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Appendix d to §1910.1200 - Safety data sheets

Texts of the legislative phrases mentioned in section 2:

- CONTINUED ON NEXT PAGE -



Diesel Defender Concentrate

SECTION 16: OTHER INFORMATION (continued)

H315: Causes skin irritation.
H411: Toxic to aquatic life with long lasting effects.
H401: Toxic to aquatic life.
H350: May cause cancer.
H317: May cause an allergic skin reaction.
H302: Harmful if swallowed.
H313: May be harmful in contact with skin.
H331: Toxic if inhaled.
H304: May be fatal if swallowed and enters airways.
H226: Flammable liquid and vapour.
H319: Causes serious eye irritation.

Advice related to training:

According to 29 CFR 1910. 1200, training on chemical hazards is necessary for employees using this product. This training will facilitate their understanding and interpretation of the safety data sheet, as well as the product label.

Principal bibliographical sources:

Occupational Safety & Health Administration (OSHA).

Abbreviations and acronyms:

IMDG: International maritime dangerous goods code
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
COD: Chemical Oxygen Demand
BOD5: 5-day biochemical oxygen demand
BCF: Bioconcentration factor
LD50: Lethal Dose 50
CL50: Lethal Concentration 50
EC50: Effective concentration 50
Log-POW: Octanol-water partition coefficient
Koc: Partition coefficient of organic carbon
IARC: International Agency for Research on Cancer

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END OF SAFETY DATA SHEET