

# SAFETY DATA SHEET

BG DFC Plus® HP Extra Cold Weather Performance With Cetane Improver



## Section 1. Identification

**GHS product identifier** : BG DFC Plus® HP Extra Cold Weather Performance With Cetane Improver  
**Product code** : 238  
**Other means of identification** : P238-XXXX, 23811, 23811E, 2385, 2385E, 238B, P238  
**Product type** : Liquid.

### Relevant identified uses of the substance or mixture and uses advised against

#### Identified uses

Fuel additive.

**Supplier's details** : BG Products Inc.  
740 S. Wichita Street  
Wichita, KS, 67213, USA  
www.bgprod.com  
316-266-8120  
msds@bgprod.com

**Emergency telephone number (with hours of operation)** : (800) 424-9300 (CHEMTREC: CCN656479)  
24-hour telephone and/or website

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : FLAMMABLE LIQUIDS - Category 4  
ACUTE TOXICITY (oral) - Category 4  
SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A  
SKIN SENSITIZATION - Category 1  
CARCINOGENICITY - Category 2  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
ASPIRATION HAZARD - Category 1  
AQUATIC HAZARD (LONG-TERM) - Category 2

### GHS label elements

#### Hazard pictograms



**Signal word** : Danger

**Hazard statements** : Combustible liquid.  
Harmful if swallowed.  
May be fatal if swallowed and enters airways.  
Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye irritation.  
May cause respiratory irritation.  
Suspected of causing cancer.  
Toxic to aquatic life with long lasting effects.

## Section 2. Hazards identification

### Precautionary statements

- Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.
- Response** : Collect spillage. IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. Take off contaminated clothing and wash it before reuse. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. 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 or attention.
- Storage** : Store locked up. Store in a well-ventilated place. Keep container tightly closed.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : P238-XXXX, 23811, 23811E, 2385, 2385E, 238B, P238

Ingredient name	%	CAS number
Solvent naphtha (petroleum), heavy arom.	≥25 - ≤50	64742-94-5
2-ethylhexyl nitrate	≥25 - ≤50	27247-96-7
Isooctadecanoic acid, reaction products with tetraethylenepentamine	≤10	68784-17-8
1,2,4-trimethylbenzene	≤5	95-63-6
naphthalene	≤5	91-20-3
xylene	≤1	1330-20-7
ethylbenzene	<1	100-41-4
Polyalkylenepolyamine	≤1	Proprietary
cumene	≤0.3	98-82-8
mesitylene	≤0.3	108-67-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : May cause respiratory irritation.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. May be fatal if swallowed and enters airways.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting

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

- 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.
- Specific treatments** : No specific treatment.

## Section 4. First aid measures

- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides

- Special protective actions for fire-fighters** : 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- 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.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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.

## Section 6. Accidental release measures

- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements 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.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not swallow. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.

- Advice on general occupational hygiene** : 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. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. 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. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. 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. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Solvent naphtha (petroleum), heavy arom. 2-ethylhexyl nitrate Isooctadecanoic acid, reaction products with tetraethylenepentamine 1,2,4-trimethylbenzene	None. None. None. <b>ACGIH TLV (United States, 1/2021).</b> TWA: 25 ppm 8 hours. TWA: 123 mg/m <sup>3</sup> 8 hours. <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 25 ppm 8 hours. TWA: 125 mg/m <sup>3</sup> 8 hours. <b>NIOSH REL (United States, 10/2020).</b> TWA: 25 ppm 10 hours. TWA: 125 mg/m <sup>3</sup> 10 hours.
naphthalene	<b>ACGIH TLV (United States, 1/2021).</b> <b>Absorbed through skin.</b> TWA: 10 ppm 8 hours.

## Section 8. Exposure controls/personal protection

xylene

TWA: 52 mg/m<sup>3</sup> 8 hours.  
**OSHA PEL 1989 (United States, 3/1989).**  
 TWA: 10 ppm 8 hours.  
 TWA: 50 mg/m<sup>3</sup> 8 hours.  
 STEL: 15 ppm 15 minutes.  
 STEL: 75 mg/m<sup>3</sup> 15 minutes.  
**NIOSH REL (United States, 10/2020).**  
 TWA: 10 ppm 10 hours.  
 TWA: 50 mg/m<sup>3</sup> 10 hours.  
 STEL: 15 ppm 15 minutes.  
 STEL: 75 mg/m<sup>3</sup> 15 minutes.  
**OSHA PEL (United States, 5/2018).**  
 TWA: 10 ppm 8 hours.  
 TWA: 50 mg/m<sup>3</sup> 8 hours.

**ACGIH TLV (United States, 1/2021).**

TWA: 100 ppm 8 hours.  
 TWA: 434 mg/m<sup>3</sup> 8 hours.  
 STEL: 150 ppm 15 minutes.  
 STEL: 651 mg/m<sup>3</sup> 15 minutes.

**OSHA PEL 1989 (United States, 3/1989).**

TWA: 100 ppm 8 hours.  
 TWA: 435 mg/m<sup>3</sup> 8 hours.  
 STEL: 150 ppm 15 minutes.  
 STEL: 655 mg/m<sup>3</sup> 15 minutes.

**OSHA PEL (United States, 5/2018).**

TWA: 100 ppm 8 hours.  
 TWA: 435 mg/m<sup>3</sup> 8 hours.

**ACGIH TLV (United States, 1/2021).**

TWA: 20 ppm 8 hours.  
**OSHA PEL 1989 (United States, 3/1989).**  
 TWA: 100 ppm 8 hours.  
 TWA: 435 mg/m<sup>3</sup> 8 hours.  
 STEL: 125 ppm 15 minutes.  
 STEL: 545 mg/m<sup>3</sup> 15 minutes.

**NIOSH REL (United States, 10/2020).**

TWA: 100 ppm 10 hours.  
 TWA: 435 mg/m<sup>3</sup> 10 hours.  
 STEL: 125 ppm 15 minutes.  
 STEL: 545 mg/m<sup>3</sup> 15 minutes.

**OSHA PEL (United States, 5/2018).**

TWA: 100 ppm 8 hours.  
 TWA: 435 mg/m<sup>3</sup> 8 hours.

ethylbenzene

Polyalkylenepolyamine  
 cumene

None.  
**OSHA PEL 1989 (United States, 3/1989).**  
**Absorbed through skin.**

TWA: 50 ppm 8 hours.  
 TWA: 245 mg/m<sup>3</sup> 8 hours.  
**NIOSH REL (United States, 10/2020).**  
**Absorbed through skin.**  
 TWA: 50 ppm 10 hours.  
 TWA: 245 mg/m<sup>3</sup> 10 hours.

**ACGIH TLV (United States, 1/2021).**

TWA: 5 ppm 8 hours.

**OSHA PEL (United States, 5/2018).**

**Absorbed through skin.**

TWA: 50 ppm 8 hours.  
 TWA: 245 mg/m<sup>3</sup> 8 hours.

**ACGIH TLV (United States, 1/2021).**

TWA: 25 ppm 8 hours.  
 TWA: 123 mg/m<sup>3</sup> 8 hours.

**OSHA PEL 1989 (United States, 3/1989).**

mesitylene

## Section 8. Exposure controls/personal protection

TWA: 25 ppm 8 hours.  
 TWA: 125 mg/m<sup>3</sup> 8 hours.  
**NIOSH REL (United States, 10/2020).**  
 TWA: 25 ppm 10 hours.  
 TWA: 125 mg/m<sup>3</sup> 10 hours.

### Biological exposure indices

No exposure indices known.

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : 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.

### Individual protection measures

**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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : 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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

### Skin protection

**Hand protection** : 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : 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.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

**Physical state** : Liquid.

**Color** : Amber.

**Odor** : Solvents [Slight]

## Section 9. Physical and chemical properties and safety characteristics

<b>Odor threshold</b>	: Not available.
<b>pH</b>	: Not available.
<b>Melting point/freezing point</b>	: Not available.
<b>Boiling point, initial boiling point, and boiling range</b>	: Not available.
<b>Flash point</b>	: Closed cup: 63°C (145.4°F) [Pensky-Martens]
<b>Evaporation rate</b>	: Not available.
<b>Flammability</b>	: Not available.
<b>Lower and upper explosion limit/flammability limit</b>	: Not available.
<b>Vapor pressure</b>	:

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
ethylbenzene	9.3	1.2				
xylene	6.7	0.89				
cumene	3.72	0.5				
mesitylene	2.4	0.32				
1,2,4-trimethylbenzene	2.25	0.3				
2-ethylhexyl nitrate	0.2	0.027	OECD 104			
naphthalene	0.05	0.0067	OECD 104			
Solvent naphtha (petroleum), heavy arom.	0.02	0.0027				

<b>Relative vapor density</b>	: Not available.
<b>Relative density</b>	: 0.9266
<b>Solubility(ies)</b>	:

Media	Result
cold water	Not soluble
hot water	Not soluble

<b>Solubility in water</b>	: Not available.
<b>Partition coefficient: n-octanol/water</b>	: Not applicable.
<b>Auto-ignition temperature</b>	:

Ingredient name	°C	°F	Method
2-ethylhexyl nitrate	215	419	NF T 70-504
Solvent naphtha (petroleum), heavy arom.	220 to 250	428 to 482	ASTM E 659
Solvent naphtha (petroleum), light arom.	280 to 470	536 to 878	
cumene	424	795.2	
xylene	432	809.6	
ethylbenzene	432.22	810	
1,2,4-trimethylbenzene	500	932	
naphthalene	526 to 587	978.8 to 1088.6	DIN 51794
mesitylene	559	1038.2	

<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Kinematic (40°C (104°F)): 6.9 mm <sup>2</sup> /s (6.9 cSt)

## Section 9. Physical and chemical properties and safety characteristics

**Flow time (ISO 2431)** : Not available.

### Particle characteristics

**Median particle size** : Not applicable.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

**Incompatible materials** : Reactive or incompatible with the following materials:  
oxidizing materials

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Solvent naphtha (petroleum), heavy arom.	LC50 Inhalation Dusts and mists	Rat	1.97 mg/l	4 hours
2-ethylhexyl nitrate	LD50 Dermal	Rabbit	3160 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
Isooctadecanoic acid, reaction products with tetraethylenepentamine	LD50 Dermal	Rabbit	4800 mg/kg	-
	LD50 Oral	Rat	9600 mg/kg	-
1,2,4-trimethylbenzene	LD50 Oral	Rat	>5 g/kg	-
	LC50 Inhalation Vapor	Rat	18000 mg/m <sup>3</sup>	4 hours
naphthalene	LD50 Oral	Rat	5 g/kg	-
	LD50 Dermal	Rabbit	>20 g/kg	-
xylene	LD50 Oral	Rat	490 mg/kg	-
	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
ethylbenzene	LD50 Oral	Rat	4300 mg/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
Polyalkylenepolyamine	LD50 Oral	Rat	3500 mg/kg	-
	LD50 Dermal	Rat	1260 mg/kg	-
cumene	LD50 Oral	Rat	2100 mg/kg	-
	LC50 Inhalation Vapor	Rat	39000 mg/m <sup>3</sup>	4 hours
mesitylene	LD50 Oral	Rat	1400 mg/kg	-
	LC50 Inhalation Vapor	Rat	24000 mg/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	5000 mg/kg	-

#### Irritation/Corrosion

## Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Solvent naphtha (petroleum), heavy arom. naphthalene	Skin - Mild irritant	Rabbit	-	24 hours 500 uL	-
	Skin - Mild irritant	Rabbit	-	495 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 0.05 MI	-
xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 uL	-
ethylbenzene	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Severe irritant	Rabbit	-	500 mg	-
Polyalkylenepolyamine	Eyes - Moderate irritant	Rabbit	-	-	-
	Skin - Severe irritant	Rabbit	-	-	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
cumene	Eyes - Mild irritant	Rabbit	-	86 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 10 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 100 mg	-
mesitylene	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-

### Sensitization

Product/ingredient name	Route of exposure	Species	Result
Polyalkylenepolyamine	skin	Guinea pig	Sensitizing

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Classification

Product/ingredient name	OSHA	IARC	NTP
naphthalene	-	2B	Reasonably anticipated to be a human carcinogen.
xylene	-	3	-
ethylbenzene	-	2B	-
cumene	-	2B	Reasonably anticipated to be a human carcinogen.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

## Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
BG DFC Plus® HP Extra Cold Weather Performance With Cetane Improver	Category 3	-	Respiratory tract irritation
2-ethylhexyl nitrate	Category 3	-	Respiratory tract irritation
1,2,4-trimethylbenzene	Category 3	-	Respiratory tract irritation
cumene	Category 3	-	Respiratory tract irritation
mesitylene	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	-	hearing organs

### Aspiration hazard

Name	Result
BG DFC Plus® HP Extra Cold Weather Performance With Cetane Improver	ASPIRATION HAZARD - Category 1
Solvent naphtha (petroleum), heavy arom.	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1
cumene	ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : May cause respiratory irritation.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. May be fatal if swallowed and enters airways.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : Adverse symptoms may include the following:  
nausea or vomiting

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

## Section 11. Toxicological information

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Polyalkylenepolyamine	Sub-chronic LOAEL Dermal	Rabbit	50 mg/kg	-
	Sub-chronic LOAEL Oral	Rat	43 mg/kg	-

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

**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.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
BG DFC Plus® HP Extra Cold Weather Performance With Cetane Improver	500	N/A	N/A	N/A	N/A
Solvent naphtha (petroleum), heavy arom.	5000	3160	N/A	N/A	N/A
2-ethylhexyl nitrate	500	1100	N/A	11	N/A
1,2,4-trimethylbenzene	5000	N/A	N/A	18	N/A
naphthalene	490	N/A	N/A	N/A	N/A
xylene	4300	1100	5000	N/A	N/A
ethylbenzene	3500	N/A	N/A	11	N/A
Polyalkylenepolyamine	2100	1260	N/A	N/A	N/A
cumene	N/A	N/A	N/A	39	N/A
mesitylene	5000	N/A	N/A	24	N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
1,2,4-trimethylbenzene	Acute LC50 4910 µg/l Marine water	Crustaceans - Elasmopus pecteniscus - Adult	48 hours
naphthalene	Acute LC50 7720 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 1.6 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
xylene	Acute LC50 2350 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 213 µg/l Fresh water	Fish - Melanotaenia fluviatilis - Larvae	96 hours
	Chronic NOEC 0.5 mg/l Marine water	Crustaceans - Uca pugnax - Adult	3 weeks
ethylbenzene	Chronic NOEC 1.5 mg/l Fresh water	Fish - Oreochromis mossambicus	60 days
	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
ethylbenzene	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 4900 µg/l Marine water	Algae - Skeletonema costatum	72 hours
	Acute EC50 7700 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 6.53 mg/l Marine water	Crustaceans - Artemia sp. -	48 hours

## Section 12. Ecological information

cumene	Acute EC50 2.93 mg/l Fresh water	Nauplii Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water Acute EC50 7.4 mg/l Marine water	Fish - Oncorhynchus mykiss Crustaceans - Artemia sp. - Nauplii	96 hours 48 hours
	Acute EC50 10.6 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
mesitylene	Acute LC50 2700 µg/l Fresh water Acute LC50 13000 µg/l Marine water	Fish - Oncorhynchus mykiss Crustaceans - Cancer magister - Zoea	96 hours 48 hours
	Acute LC50 12520 µg/l Fresh water Chronic NOEC 400 µg/l Fresh water	Fish - Carassius auratus Daphnia - Daphnia magna	96 hours 21 days

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Solvent naphtha (petroleum), heavy arom.	2.8 to 6.5	99 to 5780	high
2-ethylhexyl nitrate	5.24	-	high
1,2,4-trimethylbenzene	3.63	243	low
naphthalene	3.4	36.5 to 168	low
xylene	3.12	8.1 to 25.9	low
ethylbenzene	3.6	-	low
cumene	3.55	35.48	low
mesitylene	3.42	161	low

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Naphthalene	91-20-3	Listed	U165

## Section 14. Transport information

	<b>DOT Classification</b>	<b>TDG Classification</b>	<b>Mexico Classification</b>	<b>ADR/RID</b>	<b>IMDG</b>	<b>IATA</b>
<b>UN number</b>	NA1993	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
<b>UN proper shipping name</b>	Combustible liquid, n.o.s. (Solvent naphtha (petroleum), heavy arom., 2-ethylhexyl nitrate)	-	-	-	-	-
<b>Transport hazard class(es)</b>	Combustible liquid.	-	-	-	-	-
<b>Packing group</b>	III	-	-	-	-	-
<b>Environmental hazards</b>	No.	No.	No.	No.	No.	No.

### Additional information

#### **DOT Classification**

- : Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials in package sizes less than the product reportable quantity.
- Reportable quantity** 2414.5 lbs / 1096.2 kg [312.52 gal / 1183 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
- Limited quantity** Yes.
- Packaging instruction** Exceptions: 150. Non-bulk: 203. Bulk: 241.
- Quantity limitation** Passenger aircraft/rail: 60 L. Cargo aircraft: 220 L.
- Special provisions** 148, IB3, T1, TP1

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) PAIR:** naphthalene  
**TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**Clean Water Act (CWA) 307:** naphthalene; ethylbenzene  
**Clean Water Act (CWA) 311:** naphthalene; xylene; ethylbenzene

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

## Section 15. Regulatory information

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304**

Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

**SARA 311/312**

**Classification** : FLAMMABLE LIQUIDS - Category 4  
 ACUTE TOXICITY (oral) - Category 4  
 SKIN IRRITATION - Category 2  
 EYE IRRITATION - Category 2A  
 SKIN SENSITIZATION - Category 1  
 CARCINOGENICITY - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
 ASPIRATION HAZARD - Category 1

Composition/information on ingredients

Name	%	Classification
Solvent naphtha (petroleum), heavy arom.	≥25 - ≤50	ASPIRATION HAZARD - Category 1
2-ethylhexyl nitrate	≥25 - ≤50	OXIDIZING LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Isooctadecanoic acid, reaction products with tetraethylenepentamine	≤10	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A
1,2,4-trimethylbenzene	≤5	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
naphthalene	≤5	ACUTE TOXICITY (oral) - Category 4 CARCINOGENICITY - Category 2
xylene	≤1	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2
ethylbenzene	<1	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1
Polyalkylenepolyamine	≤1	ACUTE TOXICITY (dermal) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1
cumene	≤0.3	FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
mesitylene	≤0.3	ASPIRATION HAZARD - Category 1 FLAMMABLE LIQUIDS - Category 3

**Section 15. Regulatory information**SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)  
(Respiratory tract irritation) - Category 3**SARA 313**

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	1,2,4-trimethylbenzene	95-63-6	≤5
	naphthalene	91-20-3	≤5
	ethylbenzene	100-41-4	<1
	cumene	98-82-8	≤0.3
<b>Supplier notification</b>	1,2,4-trimethylbenzene	95-63-6	≤5
	naphthalene	91-20-3	≤5
	ethylbenzene	100-41-4	<1
	cumene	98-82-8	≤0.3

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

**State regulations**

- Massachusetts** : The following components are listed: PSEUDOCUMENE; NAPHTHALENE
- New York** : The following components are listed: Naphthalene
- New Jersey** : The following components are listed: PSEUDOCUMENE; 1,2,4-TRIMETHYL BENZENE; BENZENE,1,2,4-TRIMETHYL-; NAPHTHALENE; TAR CAMPHOR; MOTH FLAKES; ETHYL BENZENE; BENZENE, ETHYL-
- Pennsylvania** : The following components are listed: PSEUDOCUMENE; NAPHTHALENE
- California Prop. 65**

**⚠ WARNING:** This product can expose you to chemicals including Naphthalene, Ethylbenzene and cumene, which are known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ingredient name	No significant risk level	Maximum acceptable dosage level
Naphthalene	Yes.	-
Ethylbenzene	Yes.	-
cumene	-	-

**International regulations****Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Ingredient name	List name	Status
PAHs	POPs - Annex 3	Listed

**Inventory list**

- Australia** : All components are listed or exempted.
- Canada** : All components are listed or exempted.
- China** : All components are listed or exempted.
- Eurasian Economic Union** : **Russian Federation inventory:** Not determined.
- Japan** : **Japan inventory (CSCL):** Not determined.  
**Japan inventory (ISHL):** Not determined.

## Section 15. Regulatory information

<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: Not determined.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are active or exempted.
<b>Viet Nam</b>	: Not determined.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

Health	*	2
Flammability		2
Physical hazards		0

**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 and the associated label are not required on SDSs or products leaving a facility 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 trademark and service mark of the American Coatings Association, Inc.**

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### National Fire Protection Association (U.S.A.)



### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 4	On basis of test data
ACUTE TOXICITY (oral) - Category 4	Calculation method
SKIN IRRITATION - Category 2	Calculation method
EYE IRRITATION - Category 2A	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
ASPIRATION HAZARD - Category 1	On basis of test data
AQUATIC HAZARD (LONG-TERM) - Category 2	Calculation method

### History

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## Section 16. Other information

### Key to abbreviations

- : ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- N/A = Not available
- SGG = Segregation Group
- UN = United Nations

### References

- : Not available.

✔ Indicates information that has changed from previously issued version.

### Notice to reader

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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.