

4+ Arctic

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Date of issue: 08/03/2016

Revision date: 08/03/2016

Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Product name : 4+ Arctic
Product code : Not available

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Premium fuel enhancer

1.3. Details of the supplier of the safety data sheet

Manufacturer

DSG Power Systems Inc.
230 29th Street East
Saskatoon, SK S7L 6Y6 - Canada
T 1-800-667-6879

Supplier

EURENCO Inc
12621 Featherwood, suite 230
Houston, Texas 77034
T 281-922-9911

1.4. Emergency telephone number

Emergency number : CANUTEC: 613-996-6666 (24hr)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS classification

Flam. Liq. 4
Skin Irrit. 2
Eye Irrit. 2A
Carc. 2
Repr. 2
Asp. Tox. 1

2.2. Label elements

GHS labeling

Hazard pictograms (GHS) :



Signal word (GHS) :

Danger

Hazard statements (GHS) :

Combustible liquid. Causes skin irritation. Causes serious eye irritation. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. May be fatal if swallowed and enters airways.

Precautionary statements (GHS) :

Keep away from flames and hot surfaces. – No smoking. Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/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/attention. If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/ container in accordance with local/regional/national/international regulations.

2.3. Other hazards

No additional information available.

2.4. Unknown acute toxicity (GHS)

Not applicable.

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SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable.

3.2. Mixture

Name	Product identifier	%
2-Ethylhexyl nitrate	(CAS No) 27247-96-7	20.20
Solvent naphtha, petroleum, heavy aromatic	(CAS No) 64742-94-5	16.88
Xylenes (o-, m-, p- isomers)	(CAS No) 1330-20-7	14.13
Petroleum distillates, hydrotreated light	(CAS No) 64742-47-8	10.59
Fuels, diesel	(CAS No) 68334-30-5	10.47
Ethylbenzene	(CAS No) 100-41-4	2.38
Naphthalene	(CAS No) 91-20-3	1.67
Benzene	(CAS No) 71-43-2	< 0.01
Ethylene oxide	(CAS No) 75-21-8	< 0.01

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
- First-aid measures after skin contact : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.
- First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. If irritation persists, get medical attention.
- First-aid measures after ingestion : If swallowed, do NOT induce vomiting. Never give anything by mouth to an unconscious person. Immediately call a POISON CENTER or doctor.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May cause respiratory tract irritation.
- Symptoms/injuries after skin contact : Causes skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin.
- Symptoms/injuries after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
- Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea or vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Powder, water spray, foam, carbon dioxide.
- Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Combustible liquid. Products of combustion may include, and are not limited to: oxides of carbon, oxides of nitrogen.

5.3. Advice for firefighters

- Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Eliminate sources of ignition.

6.2. Methods and material for containment and cleaning up

- For containment : Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).
- Methods for cleaning up : Scoop up material and place in a disposal container. Provide ventilation.

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6.3. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from sources of ignition - No smoking. Avoid contact with skin and eyes. Do not swallow. Avoid breathing dust/fume/gas/mist/vapors/spray. Handle and open container with care. When using do not eat, drink or smoke. Benzene and ethylene oxide are subject to the standards 29 CFR 1910.1028 and 29 CFR 1910.1047, respectively, which may contain specific requirements for handling including protective equipment, regulated areas, monitoring and medical surveillance. The employer should review the standard and assure compliance with applicable requirements.

Hygiene measures : Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep out of the reach of children. Keep container tightly closed and in a well-ventilated place. Do not store at temperatures above 49 °C / 120 °F.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-Ethylhexyl nitrate (27247-96-7)

ACGIH	Not applicable.
OSHA	Not applicable.

Solvent naphtha, petroleum, heavy aromatic (64742-94-5)

ACGIH	Not applicable.
OSHA	Not applicable.

Xylenes (o-, m-, p- isomers) (1330-20-7)

ACGIH	ACGIH TWA (ppm)	100 ppm
ACGIH	ACGIH STEL (ppm)	150 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	435 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm

Petroleum distillates, hydrotreated light (64742-47-8)

ACGIH	Not applicable.
OSHA	Not applicable.

Fuels, diesel (68334-30-5)

ACGIH	ACGIH TWA (mg/m ³)	100 mg/m ³ (inhalable fraction and vapor)
OSHA	Not applicable.	

Ethylbenzene (100-41-4)

ACGIH	ACGIH TWA (ppm)	20 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	435 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm
IDLH	US IDLH (ppm)	800 ppm (10% LEL)
NIOSH	NIOSH REL (TWA) (mg/m ³)	435 mg/m ³
NIOSH	NIOSH REL (TWA) (ppm)	100 ppm
NIOSH	NIOSH REL (STEL) (mg/m ³)	545 mg/m ³
NIOSH	NIOSH REL (STEL) (ppm)	125 ppm

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Naphthalene (91-20-3)		
ACGIH	ACGIH TWA (ppm)	10 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	50 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	10 ppm
IDLH	US IDLH (ppm)	250 ppm
NIOSH	NIOSH REL (TWA) (mg/m ³)	50 mg/m ³
NIOSH	NIOSH REL (TWA) (ppm)	10 ppm
NIOSH	NIOSH REL (STEL) (mg/m ³)	75 mg/m ³
NIOSH	NIOSH REL (STEL) (ppm)	15 ppm

Benzene (71-43-2)		
ACGIH	ACGIH TWA (ppm)	0.5 ppm
ACGIH	ACGIH STEL (ppm)	2.5 ppm
OSHA	OSHA PEL (TWA) (ppm)	10 ppm
		1 ppm
OSHA	OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1028)
OSHA	OSHA PEL (Ceiling) (ppm)	25 ppm
IDLH	US IDLH (ppm)	500 ppm
NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm
NIOSH	NIOSH REL (STEL) (ppm)	1 ppm

Ethylene oxide (75-21-8)		
ACGIH	ACGIH TWA (ppm)	1 ppm
OSHA	OSHA PEL (TWA) (ppm)	1 ppm
OSHA	OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1047)
IDLH	US IDLH (ppm)	800 ppm
NIOSH	NIOSH REL (TWA) (mg/m ³)	0.18 mg/m ³ (less than stated value)
NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm (less than stated value)
NIOSH	NIOSH REL (ceiling) (mg/m ³)	9 mg/m ³
NIOSH	NIOSH REL (ceiling) (ppm)	5 ppm

8.2. Exposure controls

Appropriate engineering controls	: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.
Hand protection	: Wear chemically resistant protective gloves.
Eye protection	: Wear approved eye protection (properly fitted dust- or splash-proof chemical safety goggles) and face protection (face shield).
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Environmental exposure controls	: Maintain levels below Community environmental protection thresholds.
Other information	: Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear
Color	: Colorless
Odor	: Aromatic

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According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Odor threshold	: 0.001 - 0.03 ppm
pH	: No data available
Melting point	: No data available
Freezing point	: -13 °C (7 °F)
Boiling point	: 183.9 °C (360.13 °F)
Flash point	: 65.4 °C (149.7 °F)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Combustible liquid
Explosion limits	: Lower limit 0.79 vol % Upper limit 12.7 vol %
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: 0.63 kPa (4.73 mmHg) @ 20 °C (68 °F)
Relative density	: 0.91 @ 16 °C (60 °F)
Relative vapor density at 20 °C	: No data available
Solubility	: Partially soluble
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: 130 - 215 °C (266-419 °F)
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: 8.005 cSt @ 40 °C (100 °F)
Viscosity, dynamic	: No data available

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under normal storage conditions. May form flammable/explosive vapor-air mixture. Decomposes violently when above 100°C / 212 °F

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Sources of ignition. Heat. Incompatible materials.

10.5. Incompatible materials

Oxidizing agents. Reducing agents. Acids. Bases. Fluorine.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon, oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

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LD50 oral rat	> 2000 mg/kg (Calculated acute toxicity estimate)
LD50 dermal rabbit	> 2000 mg/kg (Calculated acute toxicity estimate)
LC50 inhalation rat	> 20 mg/l/4h (Calculated acute toxicity estimate)
2-Ethylhexyl nitrate (27247-96-7)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 4820 mg/kg
LC50 inhalation rat	> 14 mg/l/4h

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Solvent naphtha, petroleum, heavy aromatic (64742-94-5)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2 ml/kg
LC50 inhalation rat	> 590 mg/m ³ /4h
Xylenes (o-, m-, p- isomers) (1330-20-7)	
LD50 oral rat	3500 mg/kg
LD50 dermal rabbit	> 4350 mg/kg
LC50 inhalation rat	29.08 mg/l/4h
Petroleum distillates, hydrotreated light (64742-47-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 5.2 mg/l/4h
Fuels, diesel (68334-30-5)	
LD50 oral rat	7500 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	4.6 mg/l/4h
Ethylbenzene (100-41-4)	
LD50 oral rat	3500 mg/kg
LD50 dermal rabbit	15400 mg/kg
LC50 inhalation rat	17.2 mg/l/4h
Naphthalene (91-20-3)	
LD50 oral rat	1110 mg/kg
LD50 dermal rabbit	1120 mg/kg
LC50 inhalation rat	> 340 mg/m ³ /1h
Benzene (71-43-2)	
LD50 oral rat	810 mg/kg
LD50 dermal rabbit	> 8200 mg/kg
LC50 inhalation rat	44.66 mg/l/4h
Ethylene oxide (75-21-8)	
LD50 oral rat	72 mg/kg
LC50 inhalation rat	800 ppm/4h
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Based on available data, the classification criteria are not met.
Germ cell mutagenicity	: Based on available data, the classification criteria are not met.
Carcinogenicity	: Suspected of causing cancer.
Xylenes (o-, m-, p- isomers) (1330-20-7)	
IARC group	3 - Not classifiable
Fuels, diesel (68334-30-5)	
IARC group	2B - Possibly carcinogenic to humans
Ethylbenzene (100-41-4)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity
Naphthalene (91-20-3)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity, 3 - Reasonably anticipated to be Human Carcinogen
Benzene (71-43-2)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity, 2 - Known Human Carcinogens
In OSHA Specifically Regulated Carcinogen list	Yes

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Ethylene oxide (75-21-8)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens
In OSHA Specifically Regulated Carcinogen list	Yes

Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity (single exposure)	: Based on available data, the classification criteria are not met.
Specific target organ toxicity (repeated exposure)	: Based on available data, the classification criteria are not met.
Aspiration hazard	: May be fatal if swallowed and enters airways.
Symptoms/injuries after inhalation	: May cause respiratory tract irritation.
Symptoms/injuries after skin contact	: Causes skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin.
Symptoms/injuries after eye contact	: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea or vomiting.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

12.2. Persistence and degradability

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Persistence and degradability	Not established.

12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations.
Additional information : Handle empty containers with care because residual vapors are flammable.

SECTION 14: Transport information

Department of Transportation (DOT) and Transportation of Dangerous Goods (TDG)

In accordance with DOT/TDG

UN-No.(DOT/TDG) : UN3082
Proper Shipping Name (DOT/TDG) : Environmentally hazardous substance, liquid, n.o.s.(2-Ethylhexyl nitrate)
Class (DOT/TDG) : 9
Hazard labels (DOT/TDG) :



Packing group (DOT/TDG) : III

Additional information

Other information : No supplementary information available.
Special transport precautions : Do not handle until all safety precautions have been read and understood.

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SECTION 15: Regulatory information

15.1. Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

Xylenes (o-, m-, p- isomers) (1330-20-7)

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	1.0 %
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Ethylbenzene (100-41-4)

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	0.1 %
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Naphthalene (91-20-3)

Subject to reporting requirements of United States SARA Section 313

EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA
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SARA Section 313 - Emission Reporting	0.1 %
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Benzene (71-43-2)

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	0.1 %
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Ethylene oxide (75-21-8)

Listed on the United States SARA Section 302

Subject to reporting requirements of United States SARA Section 313

SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb
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SARA Section 313 - Emission Reporting	0.1 %
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15.3. US State regulations

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State or local regulations	This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
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SECTION 16: Other information

Date of issue : 08/03/2016

Revision date : 08/03/2016

Other information : None.

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