

# MATERIAL SAFETY DATA SHEET

## 4Plus Artic with BioArmor

### Section 1 – COMPANY IDENTIFICATION

DSG Saskatoon Diesel Services  
230 29<sup>th</sup> Street East  
Saskatoon, SK S7L 6Y6

Product Information: 1-800-667-6879

IN CASE OF A DANGEROUS GOODS EMERGENCY  
CALL CANUTEC AT THE 24-HOUR NUMBER  
613-966-6666

### Section 2 – COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Ingredients:</u>	<u>CAS Number</u>
Polymers	N/A
*Vinyl Acetate Monomer	108-05-4
Light Aromatic Naphtha	64742-95-6
*(1,2,4 – Trimethylbenzene)	95-63-6
*Ethylene Glycol N-Butyl Ether	111-76-2
Xylene	1330-20-7
*(Ethylbenzene)	100-41-4
Light Ends of Polyethylbenzene Residue	178535-25-6
(Triethylbenzene)	102-25-0
Naphtha (Petroleum) Hydrotreated heavy	64742-48-9

<u>Non-Hazardous Ingredients</u>	<u>CAS Number</u>
Methyl Ester from lipid sources (Product may contain any of the following)	
Methyl Soyate	67784-80-9
Rapeseed Methyl Ester (RME)	73891-99-3
Methyl Tallowate	61788-71-2
Mustard Methyl Ester (MME)	N/A

### Section 3 – HAZARDOUS IDENTIFICATION

#### Potential Health Effects:

Skin contact with Light Aromatic Naphtha may cause skin irritation with discomfort or rash. Evidence suggests that skin permeation can occur in amounts capable of producing photosensitization. Eye contact may cause irritation with discomfort, tearing, or blurring of vision. Inhalation may cause irritation of upper respiratory passages with coughing and discomfort. Ingestion may cause non-specific discomfort such as nausea, headache, weakness or temporary nervous system depression with anesthetic effects such as dizziness, headache, confusion, incoordination, and loss of consciousness.

Prolonged or repeated exposure to Ethylene Glycol N-Butyl Ether may cause skin irritation which may be slow to heal. A single prolonged exposure may result in the material being absorbed in harmful amounts. Excessive exposure may cause hemolysis, thereby impairing the blood's ability to transport oxygen. Repeated



minor exposure may result in absorption of harmful amounts. May cause moderate eye irritation which may be slow to heal. May cause moderate corneal injury. Effects may be slow to heal. Vapors of Ethylene Glycol N-Butyl Ether may irritate eyes. A single prolonged excessive inhalation exposure may cause adverse effects. Excessive exposure may cause irritation to upper respiratory tract. Observations in animals include blood and kidney effects. Single dose oral toxicity of Ethylene Glycol N-Butyl Ether is considered to be moderate. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury. One case of Massive Ingestion (i.e. attempted suicide) reported blood (hemolysis) and kidney effects.

Eye contact with the product ingredients may cause eye irritation with discomfort, tearing, or blurring of vision. Direct exposure may cause skin irritation (redness, swelling). A single prolonged exposure may result in the material being absorbed through the skin in harmful amounts.

In general, overexposure to high atmospheric concentrations of alkyl-substituted aromatics may produce central nervous system depression, headache, dizziness, incoordination, nausea and loss of appetite. Aspiration (liquid enters the lung), may cause lung damage due to chemical pneumonia, a condition caused by petroleum-like solvents.

Minute amounts of petroleum hydrocarbons aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possible death.

Individuals with preexisting diseases of the kidneys or liver may have increased susceptibility to the toxicity of excessive exposures.

Inhalation of fumes or vapors from heated product may cause skin, eye and respiratory tract irritation.

Skin contact may cause skin irritation with discomfort or rash. Xylene can penetrate the skin in amounts capable of causing systemic toxicity.

Eye contact may cause eye irritation with discomfort, tearing or blurring of vision.

Inhalation of Ethylbenzene may cause irritation of the upper respiratory passages with coughing and discomfort.

Inhalation or ingestion of Xylene or Ethylbenzene may cause nonspecific discomfort, such as nausea, headache, or weakness; or temporary nervous system depression with anesthetic effects such as dizziness, headache, confusion, incoordination, and loss of consciousness.

Inhalation or ingestion of Ethylbenzene may cause abnormal liver or kidney function.

Ingestion of Xylene or Ethylbenzene may cause gastrointestinal tract irritation. Aspiration of Ethylbenzene into the lungs during ingestion or vomiting may lead to chemical pneumonitis. Higher exposure to Xylene may lead to cardiac stress; anemia and other blood changes; respiratory effects; possible liver and kidney damage; or fatality from gross overexposure.

#### Carcinogenicity Information

Ethylbenzene has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B). This IARC classification was based upon limited evidence of carcinogenicity to animals and inadequate evidence of carcinogenicity to humans.

Vinyl Acetate Monomer has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B). This IARC classification was based upon limited evidence of carcinogenicity to animals and inadequate evidence of carcinogenicity to humans.

## **Section 4 - FIRST AID MEASURES**

### Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### Skin Contact

Flush skin with water after contact. Wash contaminated clothing before reuse.

### Eye Contact

In case of contact immediately, flush eyes with plenty of water for at least 15 minutes. Call a physician.

### Ingestion

If swallowed, do not induce vomiting. Allow victim to rinse his mouth and then to drink 2-4 cupfuls of water. Never give anything by mouth to an unconscious person. Call a physician.

### Notes to Physicians

Activated charcoal mixture may be administered. To prepare activated charcoal mixture, suspend 50 grams activated charcoal in 400-ml water and mix thoroughly. Administer 5 ml/kg or 350 ml for an average adult. Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances. Activated charcoal may induce vomiting, but may be given after emesis or lavage to absorb toxic additives. Steroid therapy in mild to moderate cases does not improve outcome. Bacterial pneumonia often occurs after exposure, but prophylactic antibiotics are not indicated and should be reserved for documented bacterial pneumonia.

## **Section 5 - FIRE FIGHTING MEASURES**

### Flammable Properties

Flash Point..... 105°F(40°C)  
Method ..... PMCC

### Extinguishing Media

Water Spray, Foam, Dry Chemical, CO<sub>2</sub>.

### Fire Fighting Instructions

Wear self-contained breathing apparatus. Wear full protective equipment.

## **Section 6 - ACCIDENTAL RELEASE MEASURES**

Note- Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) SECTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up. Soak up with sawdust, sand, oil dry or other absorbent material. Remove source of heat, sparks, flame, impact, friction, or electricity. Dike spill. Prevent material from entering sewers, waterways, or low areas.

### Spill Clean-Up

Soak up with sawdust, sand, oil dry or other absorbent material.

### Accidental Release Measures

Spills are very slippery and should be cleaned up promptly.



## Section 7 - HANDLING AND STORAGE

### Handling (Personnel)

Avoid breathing vapors or mist. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling.

### Handling (Physical Aspects)

Keep away from heat, sparks and flames.

### Storage

Store in a well-ventilated place. Keep container tightly closed. Store in accordance with National Fire Protection Association recommendations.

## Section 8 - EXPOSURE CONTROLS

### Engineering Controls

Use only with adequate ventilation. Keep container tightly closed.

### Personal Protective Equipment

#### Eye/Face Protection

Wear coverall chemical splash goggles or safety glasses.

#### Respirators

Where there is potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.

#### Protective Clothing

Where there is potential for skin contact have available and wear as appropriate impervious gloves, apron, pants, hood and jacket.

### Exposure Limits

#### Light Aromatic Naphtha:

PEL(OSHA)..... None established  
TLV(ACGIH)..... None established

#### 1,2,4-Trimethylbenzene:

PEL(OSHA).....25 ppm, 125 mg/m<sup>3</sup>, 8 hrTWA  
TLV(ACGIH).....25 ppm, 123 mg/m<sup>3</sup>, 8 hrTWA

#### Xylene:

PEL(OSHA)..... 100 ppm, 435 mg/m<sup>3</sup>, 8 hr TWA  
TLV(ACGIH)..... 100 ppm, 434 mg/m<sup>3</sup>, 8 hrTWA  
STEL 150 ppm, 651 mg/m<sup>3</sup>, A4; BEI

#### Ethylbenzene:

PEL(OSHA)..... 100 ppm, 435 mg/m<sup>3</sup>, 8 hr, TWA  
TLV(ACGIH)..... 100 ppm, 434 mg/m<sup>3</sup>, 8 hr, TWA, A3,  
BEI STEL 125 ppm, 543 mg/m<sup>3</sup>

#### Vinyl Acetate Monomer:

PEL(OSHA)..... None established  
TLV(ACGIH)..... 10 ppm, 35 mg/m<sup>3</sup>, 8 hr, TWA, A3  
STEL 15 ppm, 53 mg/m<sup>3</sup>, A3

#### Ethylene Glycol N-Butyl Ether:

PEL(OSHA).....25 ppm, skin  
 TLV(ACGIH).....20 ppm

The "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposure should be considered.

## **Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

### Physical Data

Appearance..... Pale Translucent  
 Form..... Liquid  
 Odor..... Aromatic  
 Specific Gravity..... 0.910 @ 60/60°F (16/16°C)  
 Density ..... 7.58 lbs./gal. @ 60°F (16°C)  
 Solubility in water..... 5-15%

## **Section 10 - STABILITY AND REACTIVITY**

### Chemical Stability

Stable at normal temperatures and storage conditions.

### Incompatibility

Incompatible with strong oxidizers.

### Decomposition

Decomposes with heat. Decomposition products include oxides of carbon.

### Polymerization

Will not occur.

## **Section 11 - TOXICOLOGICAL INFORMATION**

### Animal Data

Light Aromatic Naphtha:  
 Inhalation 6 hour LC50..... >14.4 mg/L in rats  
 Oral LD50.....5,000 mg/kg in rats  
 1,2,4-Trimethylbenzene:  
 Inhalation (Vapor) 4 hour LC50 .....18,000 mg/m3 in rats  
 Oral LD50 (Acute).....5,000 mg/kg in rats  
 Xylene (mixed isomers):  
 Inhalation 4 hour LC50 .....6,700 ppm in rats  
 Skin absorption LD50 .....4,320 mg/kg in rabbits  
 Oral ALD.....4,500 mg/kg in rats  
 Ethylbenzene:  
 Inhalation 4 hour LC50.....>4,000 ppm in rats  
 Skin absorption LD50.....15,000 mg/kg in mice  
 Oral LD50.....>3,500 mg/kg in rats  
 Vinyl Acetate Monomer:  
 Inhalation 4 hour LC50 .....4,000 ppm in rats  
 Skin Absorption LD50.....2,335 mg/kg in rabbits  
 Oral LD50.....2,920 mg/kg in rats  
 Ethylene Glycol N-Butyl Ether:  
 Inhalation LC50 .....700 ppm in rats, 7 hours  
 Skin Absorption LD50.....220 mg/kg in rabbits

Oral LD50 .....470 mg/kg in rats  
Dermal absorption of Xylene in animals causes narcosis. Toxic effects described in animals by inhalation include upper respiratory irritation; central nervous system effects; behavioral effects; decreased weight gain; hearing loss; and effects on the blood, liver, kidneys, heart, spleen, lungs and bone marrow. By ingestion, xylene caused central nervous system effects; decreased body weight and liver effects. Tests of xylene in animals demonstrate no carcinogenic activity. Xylene does not produce heritable genetic damage in animals or genetic damage in bacterial or mammalian cell cultures.  
Although abnormal sperm were observed after an interperitoneal injection in rats, xylene did not produce reproductive effects. Developmental toxicity was observed in animals exposed to xylene but only at concentrations that were maternally toxic.

Light Aromatic Naphtha is a moderate skin irritant, a slight eye irritant and a skin photosensitizer in animals. Toxic effects of a single inhalation exposure to very high concentrations include hyperactivity, salivation, incoordination, tremors, irregular respiration and nonspecific effects such as weight loss and irritation. Long-term inhalation exposure produced no significant effects from exposure up to concentrations of 400 ppm for one year. No animal test reports are available to define carcinogenic, mutagenic, developmental or reproductive hazards.

Vinyl Acetate is a slight skin and a severe eye irritant, but is untested for animal sensitization. No effects from repeated exposure to Vinyl Acetate by inhalation were observed at 100 ppm in rats. Exposure to higher concentrations of Vinyl Acetate by inhalation caused eye irritation and lacrimation, reduced weight gain, and irritation of the respiratory tract with breathing difficulty. The effects observed in rats and mice exposed by inhalation to 200 and 600 ppm for two years include reduced body weight. Repeated exposures by administration of Vinyl Acetate in the drinking water caused decreased weight gain, and low liver weights. Reduced body weight occurred in rats administered 5000 ppm in their drinking water for two years. Vinyl acetate is weakly carcinogenic in rats, but not in mice. The compound does not have an adverse effect on the development of rats and its effect on reproduction is not considered significant. The genotoxicity of vinyl acetate is equivocal. Genetic damage was produced in some types of cell cultures and in animals, but was negative in other studies. No tests for heritable genetic damage were available.

## **Section 12 - ECOLOGICAL INFORMATION**

Xylene:  
96 hour LC50 fathead minnow: 27-42 mg/L

Light Aromatic Naphtha:  
The LC50 in white crappie is approximately 4.2 mg/L.

## **Section 13 - DISPOSAL CONSIDERATIONS**

Waste Disposal  
Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial and Local regulations.

## **Section 14 - SHIPPING INFORMATION**

DOT  
Proper Shipping Name..... Flammable Liquid, N.O.S. (Aromatic Hydrocarbons)  
Hazard Class..... 3  
I.D. No. (UN/NA)..... NA 1993  
Packing Group..... III  
Special Information..... Flash Point: 40°C  
Not regulated in containers <119 gallons



Marine Pollutant..... No  
Reportable Quantity..... Xylene 100 lbs.  
DOT Label(s)..... Combustible Liquid

IMO

Proper Shipping Name..... Flammable Liquid, N.O.S. (Aromatic Hydrocarbons)  
Hazard Class..... 3  
I.D. No. (UN)..... 1993  
Packing Group..... III  
Special Information..... Flash Point: 40°C  
Marine Pollutant..... No  
IMO Label..... Flammable Liquid

**Section 15 - OTHER INFORMATION**

NPCA-HMIS Rating

Health..... 2\* (Chronic Health Effects)  
Flammability..... 2  
Reactivity..... 0

Personal Protection rating to be supplied by user depending on uses conditions

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS:

MSDS Coordinator  
DSG Canada  
Saskatoon, SK S7L 6Y6  
(800) 667-6879 or  
(306) 242-7644

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