MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **DIESEL FUEL ANTI-GEL**

Product Use : Diesel fuel additive .

Chemical Family : Mixture.

Manufacturer part no. : M6912C; M6932C

Supplier's name and address:

Radiator Specialty Co., of Canada
1711 Aimco Blvd.
Mississauga, ON, Canada
L4W 1H7

Manufacturer's name and address:

Refer to Supplier

Information Telephone # : (905) 625-9117 (Mon. - Fri., 8 AM - 4 PM)

24 Hr. Emergency Tel # : 613-996-6666 (CANUTEC)

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR). WHMIS Classification:
Class B3 (Combustible Liquids);
Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
Class D2B (Materials Causing Other Toxic Effects, Toxic Material).
Labelling: Phrases recommended to appear on a supplier label, can be found in Section 15.
WHMIS symbols required on a supplier label:

Emergency Overview : Dark amber liquid. Petroleum odour.
Warning! Combustible liquid and vapour. Harmful if inhaled. Harmful or fatal if swallowed. May cause nausea, vomiting, headache and other central nervous system effects. May cause respiratory irritation. Could result in pulmonary edema (fluid accumulation). May be an aspiration hazard. Can enter the lungs and cause damage. Causes skin irritation. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Possible birth defect hazard - contains material that may cause birth defects, based on animal data. Possible cancer hazard - contains material which may cause cancer.
This product contains marine pollutants.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.

Skin : May cause moderate skin irritation. May cause redness and itching or burning sensation. Product may be absorbed.

Eyes : May cause mild eye irritation. Symptoms may include redness, itching and swelling.

Ingestion : May cause irritation of mouth, throat, and stomach. Ingestion may cause symptoms similar to inhalation. Material is an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal. Ingestion of large quantities of nitrates may affect oxygen transport in the blood and blood system, causing methemoglobinemia. Could cause cyanosis (bluish discoloration of the skin due to deficient oxygenation of the blood).

Effects of long-term (chronic) exposure
: Prolonged or repeated contact may cause drying, cracking and defatting of the skin. Repeated overexposure to naphthalene may cause destruction of red blood cells with anemia, fever, jaundice and kidney and liver damage.

Carcinogenic status : Possible cancer hazard. See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : May cause birth defects. See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: This product contains marine pollutants. See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
stoddard solvent	8052-41-3	30.00 - 60.00
2-Ethylhexyl nitrate	27247-96-7	15.00 - 40.00
Petroleum naphtha	64742-94-5	7.00 - 13.00
1,2,4-Trimethylbenzene	95-63-6	1.00 - 5.00
1,3,5-Trimethylbenzene	108-67-8	1.00 - 5.00
Naphthalene	91-20-3	1.00 - 5.00
Xylene	1330-20-7	1.00 - 5.00
trimethylbenzene	25551-13-7	0.10 - 1.00

SECTION 4 - FIRST AID MEASURES

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention.

Skin contact : Remove/Take off immediately all contaminated clothing. Wash exposed area thoroughly with soap and water for at least 15 minutes. Get medical attention.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists, seek prompt medical attention.

Ingestion : Seek immediate medical attention/advice. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Notes For Physician : Treat symptomatically. This product is a CNS depressant.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

: Combustible liquid and vapour. Will ignite when exposed to heat, flame and other sources of ignition. Vapours may be heavier than air and may collect in confined and low-lying areas. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Product may float, and be re-ignited at the water's surface.

Oxidizing properties : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

: May be sensitive to static discharge. Not expected to be sensitive to mechanical impact.

Suitable extinguishing media : Dry chemical, foam, carbon dioxide and water fog. Do not use water jet, as this may spread burning material.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

: Carbon oxides; Nitrogen oxides (NOx); sulfur oxides; Aldehydes; Hydrocarbons; Other unidentified organic compounds.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up.

Environmental precautions : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

Spill response/cleanup : Ventilate area of release. Remove all sources of ignition. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Prohibited materials : Do not use combustible materials, such as sawdust, as absorbent material.

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures : Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing vapours. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flames. Use proper bonding and grounding techniques when transferring liquid. Avoid contact with incompatible materials. Wash thoroughly after handling. Launder clothing before reuse.

Storage requirements : Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

Incompatible materials : Strong oxidizing agents; Bases; Acids; Reducing agents.

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

Ingredients	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL
stoddard solvent	100 ppm	N/Av	500 ppm	N/Av
2-Ethylhexyl nitrate	N/Av	N/Av	N/Av	N/Av
Petroleum naphtha	N/Av	N/Av	500 ppm (as petroleum distillates, naphtha)	N/Av
1,2,4-Trimethylbenzene	25 ppm (trimethylbenzene isomers)	N/Av	25 ppm (trimethylbenzene isomers) (final rule limit)	N/Av
1,3,5-Trimethylbenzene	25 ppm (trimethylbenzene isomers)	N/Av	25 ppm (trimethylbenzene isomers) (final rule limit)	N/Av
Naphthalene	10 ppm (skin)	15 ppm (skin)	10 ppm	N/Av
Xylene	100 ppm	150 ppm	100 ppm	N/Av
trimethylbenzene	25 ppm	N/Av	25 ppm (final rule limit)	N/Av

Ventilation and engineering measures : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.

Skin protection : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers. Depending on conditions of use, an impervious apron should be worn.

Eye / face protection : Safety glasses with side-shields or chemical splash goggles.

Other protective equipment : An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations : Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid.

Appearance : Orange-brown. Clear.

Odour : Petroleum odour.

Odour threshold : N/Av

pH : N/Av

Boiling point : > 148.9°C

Melting/Freezing point : N/Av

Vapour pressure (mmHg @ 20° C / 68° F) : N/Av

Vapour density (Air = 1) : N/Av

Volatile organic Compounds (VOC's) : N/Av

Flash point : > 40.6°C

Flash point Method : Tag closed cup

Lower flammable limit (% by vol.) : N/Av

Flame Projection Length : N/Ap

Absolute pressure of container : N/Ap

Specific gravity : 0.84

Coefficient of water/oil distribution : N/Av

Solubility in water : slightly soluble

Evaporation rate (n-Butyl acetate = 1) : N/Av

Volatiles (% by weight) : N/Av

Auto-ignition temperature : N/Av

Upper flammable limit (% by vol.) : N/Av

Flashback observed : N/Ap

Viscosity : < 10 cSt @ 40°C

General Informatioln : No additional information.

Section 10: STABILITY AND REACTIVITY

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed.

Hazardous polymerization : Hazardous polymerization does not occur.

Conditions to avoid : Avoid heat and open flame. Keep away from direct sunlight. Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.

Materials To Avoid And Incompatibility : Strong oxidizing agents; Acids; Bases; Reducing agents.

Hazardous decomposition products : Refer to Section 5 for additional 'Hazardous combustion products'.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs : Eyes, skin, respiratory system, central nervous system, blood system, liver, brain and kidneys.

Routes of exposure : *Inhalation:* YES *Skin Absorption:* YES *Skin & Eyes:* YES *Ingestion:* YES

Irritancy : Moderate skin irritant. Mild eye irritant.

Toxicological data : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
stoddard solvent	> 5.5 mg/L	> 5000 mg/kg	> 3000 mg/kg
2-Ethylhexyl nitrate	> 4.6 mg/L/1H	> 2000 mg/kg	> 4820 mg/kg
Petroleum naphtha	> 11.4 mg/L/6H	> 6000 mg/kg	> 3160 mg/kg
1,2,4-Trimethylbenzene	18 mg/L	5000 mg/kg	> 3160 mg/kg
1,3,5-Trimethylbenzene	24 mg/L	23 000 mg/kg	N/Av
Naphthalene	N/Av	2200 mg/kg (rat) 533 mg/kg (mouse)	20 000 mg/kg
Xylene	6350 ppm	3523 mg/kg	12180 mg/kg
trimethylbenzene	18 - 24 mg/L	8970 mg/kg	N/Av

Carcinogenic status : Contains Naphthalene. Naphthalene is classified as carcinogenic by IARC (Group 2B) and NTP (Group 2 - Reasonably anticipated). No other components are classified as carcinogenic by IARC, ACGIH, OSHA or NTP.

Reproductive effects : Not expected to have other reproductive effects.

Teratogenicity : This product contains Xylene. Xylene may cause fetotoxic effects at doses which are not maternally toxic, based on animal data.

Mutagenicity : Not expected to be mutagenic in humans.

Epidemiology : No information available.

Sensitization to material : May cause an allergic skin reaction (e.g. hives, rash) in some hypersensitive individuals. No data available to indicate product or components may be respiratory sensitizers.

Synergistic materials : N/Av

other important hazards : This product is a CNS depressant. CNS depression may result from extreme exposures.

Conditions aggravated by overexposure

: Pre-existing eye, skin, respiratory, liver, kidney and central nervous system disorders. Blood disorders.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : This product contains marine pollutants. No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. The product contains the following substances which are hazardous for the environment: stoddard solvent; 2-Ethylhexyl nitrate; Petroleum naphtha; 1,3,5-Trimethylbenzene; Xylene; 1,2,4-Trimethylbenzene; Trimethylbenzene; Naphthalene; Trimethylbenzene.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
stoddard solvent	8052-41-3	2.1 - 4.2 mg/L (Bluegill sunfish)	N/Av	None.
2-Ethylhexyl nitrate	27247-96-7	2 mg/L (Bluegill sunfish)	N/Av	None.
Petroleum naphtha	64742-94-5	3.6 mg/L (Rainbow trout)	N/Av	None.
1,2,4-Trimethylbenzene	95-63-6	7.19 - 8.28 mg/L (Fathead minnow)	N/Av	None.
1,3,5-Trimethylbenzene	108-67-8	12.52 mg/L (Goldfish)	N/Av	None.
Naphthalene	91-20-3	0.11 mg/L (Rainbow trout)	0.12 mg/L	1
Xylene	1330-20-7	8.2 mg/L (Rainbow trout)	N/Av	None.
trimethylbenzene	25551-13-7	7.72 mg/L (Fathead minnow)	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
stoddard solvent	8052-41-3	N/Av	N/Av	None.
2-Ethylhexyl nitrate	27247-96-7	> 12.6 mg/L [Daphnia magna (Water flea)]	N/Av	None.
Petroleum naphtha	64742-94-5	1.1 mg/L [Daphnia magna (Water flea)]	N/Av	None.
1,2,4-Trimethylbenzene	95-63-6	6.14 mg/L Daphnia magna (Water flea)	N/Av	None.
1,3,5-Trimethylbenzene	108-67-8	50 mg/L/24hr [Daphnia magna (Water flea)]	N/Av	None.
Naphthalene	91-20-3	2.16 mg/L [Daphnia magna (Water flea)]	0.22 mg/L	None.
Xylene	1330-20-7	3.2 - 9.56 mg/L [Daphnia magna (Water flea)]	N/Av	None.
trimethylbenzene	25551-13-7	N/Av	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
stoddard solvent	8052-41-3	N/Av	N/Av	None.
2-Ethylhexyl nitrate	27247-96-7	1.57 mg/L/72hr (Green algae)	N/Av	None.
Petroleum naphtha	64742-94-5	7.2 mg/L/72hr (Green algae)	0.22 mg/L/72hr	None.
1,2,4-Trimethylbenzene	95-63-6	N/Av	N/Av	None.
1,3,5-Trimethylbenzene	108-67-8	25 mg/L/48hr (Green algae)	N/Av	None.
Naphthalene	91-20-3	0.4 mg/L/72hr (Green algae)	N/Av	1
Xylene	1330-20-7	3.2 - 4.9 mg/L/72hr (Green algae)	N/Av	None.
trimethylbenzene	25551-13-7	N/Av	N/Av	None.

Mobility : No data is available on the product itself.

Persistence : No data is available on the product itself. Contains: stoddard solvent; 2-Ethylhexyl nitrate; Petroleum naphtha; 1,3,5-Trimethylbenzene; Xylene; 1,2,4-Trimethylbenzene; Trimethylbenzene; Naphthalene.
Stoddard solvent is not considered to be readily biodegradable.
2-Ethylhexyl nitrate is not expected to be rapidly biodegradable.
Petroleum naphtha is not considered readily biodegradable.
1,3,5-Trimethylbenzene is not expected to be readily biodegradable.
Xylene is considered to be inherently biodegradable.
1,2,4-Trimethylbenzene is not considered readily biodegradable.
Trimethylbenzene is not considered to be readily biodegradable.
Naphthalene is not considered to be readily biodegradable.

Bioaccumulation potential : No data is available on the product itself. Contains: stoddard solvent; 1,3,5-Trimethylbenzene; Xylene; 1,2,4-Trimethylbenzene; Trimethylbenzene; Naphthalene.
The log Kow value for stoddard solvent is 3.5 - 6.4.
1,3,5-Trimethylbenzene has a Bioconcentration Factor (BCF) of 23 - 328, and its log Pow value is 3.6 - 3.93.
The log Pow for Xylene is 3.12.
The log Pow value for 1,2,4-Trimethylbenzene is 3.63, and its Bioconcentration Factor (BCF) is 31 - 275.
Trimethylbenzene has a Bioconcentration Factor (BCF) of 42 - 328, and its log Kow value is 3.63 (HSDB).
The log Kow value for Naphthalene is 3 - 3.5, and its bioconcentration factor (BCF) is 430.

Other Adverse Environmental effects

: No data is available on the product itself.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Do not cut, weld, drill or grind on or near this container. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14: TRANPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1268	PETROLEUM PRODUCTS, N.O.S.	3	III	
TDG Additional information	Within Canada only, the 'Flammable Liquids General Exemption' may apply. Section 1.33 of the Regulations is an exemption permitting the transportation of this product in small means of containment as not regulated. Note:: This product contains marine pollutants. This product contains: stoddard solvent; 2-Ethylhexyl nitrate.				

SECTION 15 - REGULATORY INFORMATION

Labelling:

Warning! Combustible liquid and vapour. Harmful if inhaled. Harmful or fatal if swallowed. May cause nausea, vomiting, headache and other central nervous system effects. May cause respiratory irritation. Could result in pulmonary edema (fluid accumulation). May be an aspiration hazard. Can enter the lungs and cause damage. Causes skin irritation. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Possible birth defect hazard - contains material that may cause birth defects, based on animal data. Contains material which may cause cancer, based on animal data.

Precautions: Use in a well-ventilated area. Wear suitable protective equipment during handling. Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flames. Avoid contact with incompatible materials. Wash thoroughly after handling. Store in a cool, dry, well ventilated area, away from heat and ignition sources.

FIRST AID: If inhaled, move to fresh air. If breathing stopped, begin artificial respiration. Get medical attention. For skin contact, wash with soap and water while removing contaminated clothing. Get medical attention. For eye contact, flush with running water for at least 15 minutes. If irritation persists, seek prompt medical attention. If ingested, do not induce vomiting. Immediately call a POISON CENTRE or doctor/physician. Never give anything by mouth to an unconscious person.

Refer To Material Safety Data Sheet for further information.

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

SECTION 16 - OTHER INFORMATION

Legend :

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CNS: Central Nervous System
ECOTOX: U.S. EPA Ecotoxicology Database
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
IUCLID: International Uniform ChemicaL Information Database
LC: Lethal Concentration
LD: Lethal Dose
MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RTECS: Registry of Toxic Effects of Chemical Substances
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2013.
2. International Agency for Research on Cancer Monographs, searched 2013.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2013 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD The Global Portal to Information on Chemical Substances - eChemPortal, 2013.

Prepared for: Radiator Specialty Co. of Canada 1711 Aimco Blvd. Mississauga, ON, Canada, L4W 1H7 Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.	
Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com	icc ComplianceCenter

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MSDS Preparation Date (mm/dd/yyyy) : 07/23/2007

MSDS Revision Date (mm/dd/yyyy) : 07/10/2013

Revision No. : 3

Revision Information : (M)SDS sections updated:
2. HAZARDS IDENTIFICATION (Ecological information);
9. Physical and chemical properties (Viscosity);
11. TOXICOLOGICAL INFORMATION (Toxicological data);
12. ECOLOGICAL INFORMATION.

END OF DOCUMENT