Material Safety Data Sheet

WHMIS	Protective Clothing	TDG Road / Rail

Section I. Product Identification and Uses

Product Name	**DIRECT STOP**	**CI#**	Not applicable.
Synonyms	Not available.	**DSL**	Not available.
Chemical Name	Not applicable.	**CAS #**	Not applicable.
Chemical Formula	Chemical mixture.	**Code**	1351-21-003
Chemical Family	Alcohol/glycol.	**Molecular Weight**	Not applicable.
Supplier	Multivet International Inc. 17420 Centrale Rue, P.O. Box 651, St. Hyacinthe, Quebec J2T 3L7 PHONE: (450) 778-0244	**Manufacturer**	Manufactured for: Multivet International Inc.
Material Uses	Harmless animal repellent.		

Section 2. Hazardous Ingredients

Name	CAS #	% by Weight	LC_{50}/LD_{50}
1) Ethanol	64-17-5	60-100	**ORAL (LD50)** mg/kg: Acute: 7060 (Rat.). **DERMAL (LD50)** mg/kg: Acute: 20000 (Rabbit). **VAPOR (LC50)**ppm : Acute: 31020 (Rat.) (4 hour(s)).
2) Propylene glycol	57-55-6	1-5	**ORAL (LD50)** mg/kg: Acute: 20000 (Rat.).
3) Carbon dioxide	124-38-9	1-5	Not available.

Section 3. Physical Data

Physical State and Appearance	Liquid (Aerosol Concentrate).	**Odor**	Lemon like.
pH (1% Soln/Water)	Not available.	**Taste**	Not available.
Odor Threshold	Not available.	**Color**	Clear, colourless.
Volatility	Not available.		
Evaporation Rate	Not available.		
Melting Point	Not available.		
Boiling Point	78.5°C (173.3°F) based on data for: Ethanol. Weighted average: 80.73°C (177.3°F)		
Density	0.790 @ 20°C (Water = 1)		
Vapor Density	Greater than 1 (Air = 1)		
Vapor Pressure	Not available.		
$LogK_{ow}$	Not available.		
Ionicity (Surface Active Agent)	Not available.		
Critical Temperature	Not available.		
Instability Temperature	Not available.		
Conditions of Instability	No additional remark.		
Dispersion Properties	See solubility in water.		
Solubility	Easily soluble in water.		

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Section 4. Fire and Explosion Data

The Product is:	Extremely Flammable Aerosol
Auto-ignition Temperature	415.56°C (780°F) based on data for: Propylene glycol.
Products of Combustion	These products are carbon oxides (CO, CO2) and other irritating gases.
Flash Points	CLOSED CUP: 12.78°C (55°F) (Ethanol).
Flammable Limits	LOWER: 2.6% UPPER: 19%
Extinguishing Media	Extremely flammable aerosol, liquid is soluble in water. SMALL FIRE: Use DRY chemicals, CO2, alcohol foam or water spray. LARGE FIRE: Use alcohol foam or water fog. Cool containing vessels with water spray in order to prevent pressure build-up, autoignition or explosion. Self-contained respiratory protection should be provided for firefighters.
Flammability	The flammability of an aerosol by WHMIS definition is determined by its flame-extension or its flashback. The flame-extension of this product is greater than 45 cm. FIRE CODE: Level 3 Aerosol (as per NFPA 30B). Do not use in the presence of open flame or spark. Do not place in hot water or near radiators, stoves or other sources of heat.
Risks of Explosion	Risks of explosion of the product in presence of mechanical impact: Do NOT subject aerosol cans to impact. Risks of explosion of the product in presence of static discharge: Vapours of this product may form a flammable/explosive mixture with air in enclosed areas when vapours present are between the lower (2.6%) and upper (19%) flammable limits and come into contact with open flames, sparks or static discharge. Do NOT expose aerosol containers to open flames, heat or ignition sources. Container may explode if heated.

Section 5. Reactivity

Stability	The product is stable.
Hazardous Decomposition Products	These products are carbon oxides (CO, CO2) and other irritating gases.
Degradability	Not available.
Products of Degradation	Not available. Not available.
Corrosivity	Not considered to be corrosive for metals and glass according to our database.
Reactivity	Avoid contact with strong oxidizing agents. Keep away from heat, sparks, open flame and all possible ignition sources.
Instability Temperature	Not available.
Conditions of Instability	No additional remark.

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Section 6. Toxicological Properties

Routes of Entry	Ingestion. Inhalation. Skin contact. Eye contact.
TLV	**Ethanol** TWA: 1000 (ppm) from ACGIH **Carbon dioxide** TWA: 5000 (ppm) Consult local authorities for acceptable exposure limits.
Toxicity to Animals	**WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.** Acute oral toxicity (LD50): > 5000 mg/kg (Rat.) (Ethanol). Acute oral toxicity (LD50): > 5000 mg/kg (Rat.) (Propylene glycol). Acute dermal toxicity (LD50): > 5000 mg/kg (Rabbit) (Ethanol). Acute toxicity of the vapor (LC50): > 5000 ppm (Rat.) (Ethanol).
Chronic Effects on Humans	Prolonged or repeated skin contact may lead to dermatitis.
Acute Effects on Humans	EYE CONTACT: May cause irritation, redness and tearing. This product is an eye irritant. SKIN CONTACT: May cause irritation, defatting, drying and cracking of skin. Prolonged and repeated contact may lead to dermatitis. INHALATION: Excessive inhalation of vapours may cause nasal and respiratory irritation. INGESTION: May cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product may irritate eyes and skin upon contact.
Synergetic Products (Toxicologically)	Not available.
Irritation/Corrosivity	See acute effects on humans.
Sensitization	Not available.
Carcinogenic Effects	Not available.
Toxic Effects on Reproduction	Not available.
Teratogenic Effects	Not available.
Mutagenic Effects	Not available.

Section 7. Preventive Measures

Small Spill and Leak	Ventilate area and eliminate all sources of ignition. Keep away from heat. Absorb with an inert DRY material and place in an appropriate waste disposal container.
Personal Protective Equipment	Avoid contact with skin and eyes.
Large Spill and Leak	Not applicable for aerosol containers.
Protective Clothing	Not applicable for aerosol containers.
Engineering Controls	Use under well-ventilated conditions.
Precautions	Contents under pressure. Container may explode if heated. Direct inhalation of spray may be harmful. Keep out of reach of children.
Storage	Store in a cool, dry place. Do not place in hot water or near radiators, stoves or other sources of heat. Do not puncture or incinerate container or store at temperatures over 50°C or in direct sunlight.

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Handling	Do not use in the presence of open flame, sparks or ignition sources. Keep away from heat. Avoid breathing vapours or spray mists. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. After handling, always wash hands thoroughly with soap and water.
Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities. Do not dispose in sewers. When container is empty, press button to release all pressure, then dispose of in garbage can.
Special Shipping Information	None.

Section 8. First Aid

Eye Contact	Immediately flush eyes with plenty of running water for at least 15 minutes, lifting upper and lower lids, occasionally. Get medical attention.
Skin Contact	Wash with soap and water. If irritation persists, get medical attention. Remove contaminated clothing and wash before reuse.
Hazardous Skin Contact	No additional information.
Slight Inhalation	Remove affected person to fresh air. Get medical attention.
Hazardous Inhalation	No additional information.
Slight Ingestion	If swallowed, call physician or poison control centre immediately. DO NOT induce vomiting. Rinse mouth with water. Aspiration of material into lungs due to vomiting may cause chemical pneumonitis which can be fatal.
Hazardous Ingestion	No additional information.

Section 9. MSDS Preparation

References Not available.

No additional remark.

Validated by Regulatory Affairs Dept. on 4/3/2001.

Verified by Regulatory Affairs Dept..

Printed 4/11/2002.

Emergency Phone: (905) 677-1948

Responsable Name/ Telephone No.

Classification

TDG Road / Rail CONSUMER COMMODITY.

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