



SAFETY DATA SHEET

1. Identification

Product identifier	Aviation Degreaser
Other means of identification	
Product code	No. 70900 (Item# 1006108)
Recommended use	General purpose degreaser for aviation applications
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufactured or sold by:	
Company name	CRC Canada Co.
Address	2-1246 Lorimar Drive Mississauga, Ontario L5S 1R2 Canada
Telephone	
General Information	905-670-2291
24-Hour Emergency (CHEMTREC)	800-424-9300 (Canada) 703-527-3887 (International)
Website	www.crc-canada.ca
E-mail	Support.CA@crcindustries.com

2. Hazard(s) identification

Physical hazards	Gases under pressure	Compressed gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 1B
	Reproductive toxicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2 (liver, kidney, nervous system)
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3

Label elements



Signal word	Danger
Hazard statement	Contains gas under pressure; may explode if heated. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. May cause cancer. May damage fertility or the unborn child. May cause damage to organs (liver, kidney, nervous system) through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not breathe gas. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Avoid release to the environment.

Response	IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. 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 exposed or concerned: Get medical advice/attention.
Storage	Store locked up. Keep container tightly closed. Protect from sunlight. Store in a well-ventilated place.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards	None known.

Supplemental information

When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen bromide.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
n-propyl bromide	1-bromopropane	106-94-5	80 - 100
carbon dioxide		124-38-9	3 - 7
t-butanol		75-65-0	1 - 5
butylene oxide		106-88-7	0.5 - 1.5

The exact percentage (concentration) of composition has been withheld as a trade secret.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Edema. Jaundice. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Pressurized container may rupture when exposed to heat or flame. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen bromide.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.
General fire hazards	Contents under pressure. Pressurized container may explode when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not breathe gas. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Stop leak if you can do so without risk. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Prevent product from entering drains. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not breathe mist or vapor. Do not breathe gas. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Level 1 Aerosol.

Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
n-propyl bromide (CAS 106-94-5)	TWA	0.1 ppm
t-butanol (CAS 75-65-0)	TWA	100 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm
t-butanol (CAS 75-65-0)	TWA	303 mg/m3
		100 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
carbon dioxide (CAS 124-38-9)	STEL	15000 ppm
	TWA	5000 ppm
n-propyl bromide (CAS 106-94-5)	TWA	10 ppm
t-butanol (CAS 75-65-0)	TWA	100 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
n-propyl bromide (CAS 106-94-5)	TWA	0.1 ppm
t-butanol (CAS 75-65-0)	TWA	100 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
n-propyl bromide (CAS 106-94-5)	TWA	10 ppm
t-butanol (CAS 75-65-0)	TWA	100 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
	TWA	30000 ppm 9000 mg/m3 5000 ppm
t-butanol (CAS 75-65-0)	TWA	303 mg/m3 100 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear protective gloves such as: Viton®. Silver Shield®

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form	Aerosol.
Color	Not available.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-266.8 °F (-166 °C) estimated
Initial boiling point and boiling range	158 °F (70 °C) estimated
Flash point	None (Tag Closed Cup)
Evaporation rate	Fast.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	3.8 % estimated
Flammability limit - upper (%)	9.5 % estimated
Vapor pressure	2432.4 hPa estimated
Vapor density	4.3 (air = 1)
Relative density	1.33 estimated
Solubility(ies)	
Solubility (water)	Negligible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	914 °F (490 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Percent volatile	96 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen bromide. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Hydrogen bromide.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting. May cause irritation to the respiratory system.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Health injuries are not known or expected under normal use.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Edema. Jaundice.

Information on toxicological effects

Acute toxicity	Narcotic effects. May cause respiratory irritation.
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Components	Species	Test Results
butylene oxide (CAS 106-88-7)		
Acute		
Dermal		
LD50	Rabbit	1760 mg/kg
Oral		
LD50	Rat	1180 mg/kg
n-propyl bromide (CAS 106-94-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	14374 ppm, 4 hours
Oral		
LD50	Rat	4260 mg/kg
t-butanol (CAS 75-65-0)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 14100 ppm, 4 hours
Oral		
LD50	Rat	3500 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	May cause cancer.
ACGIH Carcinogens	
n-propyl bromide (CAS 106-94-5)	A3 Confirmed animal carcinogen with unknown relevance to humans.
t-butanol (CAS 75-65-0)	A4 Not classifiable as a human carcinogen.
Canada - Manitoba OELs: carcinogenicity	
n-propyl bromide (CAS 106-94-5)	Confirmed animal carcinogen with unknown relevance to humans.
t-butanol (CAS 75-65-0)	Not classifiable as a human carcinogen.
IARC Monographs. Overall Evaluation of Carcinogenicity	
butylene oxide (CAS 106-88-7)	2B Possibly carcinogenic to humans.
n-propyl bromide (CAS 106-94-5)	2B Possibly carcinogenic to humans.
US. National Toxicology Program (NTP) Report on Carcinogens	
n-propyl bromide (CAS 106-94-5)	Reasonably Anticipated to be a Human Carcinogen.
Reproductive toxicity	May damage fertility or the unborn child.
Specific target organ toxicity - single exposure	May cause respiratory irritation. May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	May cause damage to organs (liver, kidney, nervous system) through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components	Species	Test Results
n-propyl bromide (CAS 106-94-5)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 67.3 mg/l, 96 hours
t-butanol (CAS 75-65-0)		
<i>Acute</i>		
	EC10	Bacteria 2050 mg/l, 18 hours
	EC50	Bacteria 11263 mg/l
Aquatic		
<i>Acute</i>		
Algae	EC50	Green algae (<i>Chlamydomonas variabilis</i>) > 976 mg/l
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 5504 mg/l, 48 hours
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) > 961 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability

Hydrolysis

Half-life (Hydrolysis)

n-propyl bromide 26 days

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

n-propyl bromide 2.1

t-butanol 0.35

Bioconcentration factor (BCF)

n-propyl bromide 23

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products Contents under pressure. Do not puncture, incinerate or crush. Empty container can be recycled. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code Not regulated.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport information

TDG

UN number UN1950
UN proper shipping name AEROSOLS, non-flammable, Limited Quantity
Transport hazard class(es)
Class 2.2
Subsidiary risk -
Packing group Not applicable.
Environmental hazards No.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions 80

IATA

UN number UN1950
UN proper shipping name Aerosols, non-flammable, Limited Quantity

Transport hazard class(es)
Class 2.2
Subsidiary risk -
Packing group Not applicable.
Environmental hazards No.
ERG Code 2L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Other information
Passenger and cargo aircraft Allowed with restrictions.
Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN1950
UN proper shipping name AEROSOLS, LIMITED QUANTITY
Transport hazard class(es)
Class 2
Subsidiary risk -
Packing group Not applicable.
Environmental hazards
Marine pollutant No.
EmS F-D, S-U
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

Canadian regulations

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

carbon dioxide (CAS 124-38-9)

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

carbon dioxide (CAS 124-38-9) Listed.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date	08-01-2016
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