

SECTION 1 - PRODUCT IDENTIFICATION

Product identifier/Trade name: BLAST-OFF
Product code/Internal Identification: 6550
Product use/Description: Cleaner for refrigeration and air conditioning equipment. 516 g aerosol container.
Product chemical name: Mixture
Chemical family: N/Ap
MSDS preparation/review date: December 23, 2012
Supplier identifier: Asalco Inc.
 44, ch. Des Ursulines, Stanstead, Québec (Canada), J0B 3E0
 Telephone 819-876-2211; Fax 819-876-5373; Internet www.asalco.com
Manufacturer identifier: Same as supplier
Emergency phone number: (613) 996-6666 (CANUTEC)
WHMIS Classification: A – Compressed gas
 D1B – Toxic material with immediate and serious effects
 D2A and D2B – Toxic material with other toxic effects

SECTION 2 - CHEMICAL COMPOSITION / HAZARDOUS INGREDIENTS

| Hazardous Ingredients | CAS # | % (weight) | LD ₅₀ (route, species) | LC ₅₀ (species) |
|---------------------------------|------------|------------|--|----------------------------|
| Trichloroethylene | 79-01-6 | 60-100 | 2600 mg/kg (Oral, rat) | 3786 ppm / 4 Hrs (rat) |
| d-Limonene | 5989-27-5 | 10-30 | 4400 mg/kg (Oral, rat) | N/Av |
| Dipropylene glycol methyl ether | 34590-94-8 | 5-10 | 5180 mg/kg (Oral, rat); 9500 mg/kg (Dermal, rabbit) | N/Av |
| Carbon dioxide | 124-38-9 | 1-5 | N/Ap | N/Av |

SECTION 3 - HAZARDS IDENTIFICATION
Emergency Overview

Contents under pressure. Poison. Harmful or fatal if inhaled. May cause headache, nausea, dizziness, other central nervous system effects, and eventually respiratory failure and death. May be harmful if swallowed. Causes eye and skin irritation. May cause headache, nausea, dizziness and other central nervous system effects. May cause cancer.

POTENTIAL HEALTH EFFECTS

Primary entry route(s): Skin contact, skin absorption, eye contact, ingestion and inhalation.

Effects of short-term (acute) exposure:

Inhalation:

May cause severe irritation to the nose, throat and respiratory tract, and central nervous system depression. Symptoms may include headache, nausea, vomiting, loss of coordination, and eventually respiratory failure and death. In extremely high concentrations, product may act as an asphyxiant and cause increased breathing and pulse rates, fatigue, nausea, vomiting and unconsciousness.

Skin:

Direct skin contact may cause moderate to severe irritation. Product may be absorbed through the skin. If sprayed directly onto the skin, symptoms of frostbite may be experienced including numbness, prickling and itching.

Eye:

Direct eye contact may cause moderate eye irritation. Symptoms may include redness, stinging, tearing and pain. If product is sprayed directly into the eyes, contact could cause freezing of the eye.

Ingestion:

If the product is sprayed directly into mouth, it may cause irritation to the mouth, throat and stomach. Symptoms may include dizziness, drowsiness, nausea, headache and other central nervous system effects. Product may present an aspiration hazard, and cause life-threatening lung injury following ingestion.

Effects of long-term (chronic) exposure:

Prolonged or repeated contact may cause drying, cracking and defatting of the skin (dermatitis).

Other important hazards:

Possible cancer hazard. Possible skin sensitization. Refer to Section 11, Toxicological Information, for further information.

SECTION 4 - FIRST AID MEASURES**Inhalation:**

Remove source of contamination or have victim move to fresh air. If not breathing, give artificial respiration. Obtain medical attention immediately.

Skin contact:

Wash contaminated area with mild soap and running water, while removing contaminated clothing. Obtain medical attention. Launder contaminated clothing before re-use.

Eye contact:

Immediately flush the contaminated eye(s) with gently flowing water for at least 15 minutes. Obtain medical attention.

Ingestion:

NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink two glasses of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Repeat administration of water. Obtain medical attention immediately.

SECTION 5 - FIRE FIGHTING MEASURES**Fire hazards/conditions of flammability:**

Closed containers are contained under pressure and may explode if exposed to excess heat. Flame projection 0-5 cm and no flashback.

Flash point (Method): N/Av

Lower flammable limit (% by volume): 0.7

Upper flammable limit (% by volume): 44.8

Sensitivity to mechanical impact:

Aerosols may explode or become projectiles after a mechanical impact.

Sensitivity to static discharge: N/Av

Auto-ignition temperature: 236-420°C

Suitable extinguishing media: Carbon dioxide, dry chemical powder and appropriate foam.

Special fire-fighting procedures/equipment:

During a fire, irritating/toxic smoke and fumes may be generated. Do not enter fire area without proper protection. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece. Shield personnel to protect from venting, rupturing or bursting cans. Move containers from fire area if it can be done without risk. Water spray may be useful in cooling equipment and cans exposed to heat and flame.

Hazardous combustion products:

Carbon oxides and other irritating fumes and smoke.

SECTION 6 - ACCIDENTAL RELEASE MEASURES**Personal precautions:**

Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Remove all ignition sources. Remove or isolate flammable and combustible materials. All persons dealing with clean-up should wear the appropriate protective equipment (See Section 8).

Spill response/Cleanup:

Ventilate area of release. Eliminate all sources of ignition. Stop the leak if it can be done safely. Contain and absorb any spilled liquid concentrate with inert absorbent material, then place material into a container for later disposal (see Section 13). Contaminated absorbent material may pose the same hazards as the spilled product. Notify the appropriate authorities as required.

Environmental precautions:

Confine spill, preventing it from entering sewer lines or waterways. Dispose of as per local, state and federal regulations.

SECTION 7 - HANDLING AND STORAGE

Safe handling procedures:

Before handling, it is very important that engineering controls are operating, and that protective equipment requirements and personal hygiene measures are being followed. People working with this chemical should be properly trained regarding its hazards and its safe use. Do not use near welding operations, flames or hot surfaces. Handling equipment should be properly grounded. Inspect containers for leaks before handling. Label containers appropriately. Ensure proper ventilation. Avoid breathing vapours or mists. Avoid contact with eyes, skin and clothing. Keep away from heat, sparks and flame. Avoid generating high concentrations of vapours or mists. Keep away from incompatible materials such as oxidizing materials. Keep containers closed when not in use. Empty containers are always dangerous. Assume that empty containers contain residues which are hazardous.

Storage requirements:

Store in a cool (< 50°C), well-ventilated area, away from heat and ignition sources. Store away from incompatible materials. Inspect all incoming containers to make sure they are properly labelled and not damaged. Storage area should be clearly identified, clear of obstruction and accessible only to trained personnel. Inspect periodically for damage or leaks.

Incompatible materials:

STRONG OXIDIZING MATERIALS (e.g. Chlorides, Peroxides), strong acids (e.g. Nitric acid).

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure limits: There is no available data for the product. See below for individual ingredient exposure limits.

| Ingredient | OSHA PEL | | ACGIH TLV | |
|---------------------------------|----------------|-----------------|----------------|----------------|
| | TWA | STEL | TWA | STEL |
| Trichloroethylene | 100 ppm | 200 ppm ceiling | 10 ppm | 25 ppm |
| d-Limonene | N/Av | N/Av | N/Av | N/Av |
| Dipropylene glycol methyl ether | 100 ppm (skin) | N/Av | 100 ppm (skin) | 150 ppm (skin) |
| Carbon dioxide | 5000 ppm | N/Av | 5000 ppm | 30000 ppm |

Engineering controls:

Use under well-ventilated conditions. Local exhaust ventilation system is recommended to maintain concentrations of contaminants below exposure limits.

Respiratory Protection:

Respiratory protection is required if the concentrations are higher than the exposure limits. Use a NIOSH approved respirators if the exposure limits are unknown.

Protective Clothing/Equipment:

Chemically protective gloves (impervious), and other protective clothing to prevent prolonged or repeated skin contact, must be worn during all handling operations. Wear protective chemical splash goggles to prevent mists from entering the eyes. Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

General Hygiene Considerations:

Avoid generating high concentrations of vapours or mists. Avoid contact with skin and eyes. Avoid breathing vapours or mists. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material. Remove and wash contaminated work clothing before re-use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state, colour and odour: Clear, colourless, aerosolized liquid. Ether odour.

Odour threshold: N/Av

pH: N/Av

Melting/freezing point: N/Av

Coefficient of oil/water distribution: N/Av

Specific gravity or density (water = 1): 1.32 – 1.36

Evaporation rate (n-Butyl acetate = 1): > 1

Boiling point: 87-184°C

Vapour pressure (@ 20°C): N/Av

Solubility in water: Negligible

Vapour density (Air = 1): > 1 heavier than air

% volatile by volume: N/Av

SECTION 10 - REACTIVITY AND STABILITY DATA

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

Polymerization: Hazardous polymerization will not occur.

Conditions to avoid: Avoid heat, sparks, direct flame and other ignition sources.

Materials to avoid: Incompatible materials (see Section 7).

Hazardous decomposition products: None known. Refer to 'Hazardous combustion products', Section 5.

N/Av: not applicable

N/Av: not available

SECTION 11 - TOXICOLOGICAL INFORMATION**Toxicological data:**

There is no available data for the product itself, only for the ingredients. **For more details, refer to Section 2.**

Carcinogenicity: Tetrachloroethylene is classified as carcinogenic by IARC, ACGIH and/or NTP.

Teratogenicity, mutagenicity, other reproductive effects: Tetrachloroethylene is a possible mutagen.

Skin sensitization: d-Limonene may cause sensitization.

Respiratory tract sensitization: N/Av

Conditions aggravated by exposure: None known

Synergistic materials: N/Av

SECTION 12 - ECOLOGICAL INFORMATION

Environmental effects: There is no available data 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.

Important environmental characteristics: N/Av

Aquatic toxicity: N/Av

SECTION 13 - WASTE DISPOSAL**Handling and storage conditions for disposal:**

Store material for disposal as indicated in Handling and Storage (Section 7). Do not puncture or incinerate empty spray cans.

Methods of disposal:

Review federal, provincial and local government requirements prior to disposal.

SECTION 14 - TRANSPORTATION INFORMATION**Transportation of Dangerous Goods (TDG) :**

TDG Classification: AEROSOLS; Class 2.2; UN1950

Special case: Product can also be shipped as a LIMITED QUANTITY/CONSUMER COMMODITY according to TDG Section 1.17.

SECTION 15 - REGULATORY INFORMATION**WHMIS information:**

Product is regulated according to the Controlled Product Regulations (CPR) in Canada. Refer to Section 1 for the appropriate WHMIS classification.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.

Hazardous Materials Identification System (HMIS):

HEALTH: 2 FLAMMABILITY: 1 REACTIVITY: 1 PERSONAL PROTECTION: See Section 8.

HAZARD SCALE: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

National Fire Protection Association (NFPA):

HEALTH: 2 FLAMMABILITY: 1 INSTABILITY: 0 SPECIAL HAZARDS: None.

HAZARD SCALE: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

United States OSHA information:

This product is regulated according to OSHA. This MSDS contains all the information required by OSHA.

United States TSCA information: The ingredients in this product are listed on the TSCA.

New Jersey Labeling Requirements: Ingredients to be disclosed on product labelling : Refer to Section 2.

California Proposition 65: This product contains Trichloroethylene known to the State of California to cause cancer or other reproductive harm.

SECTION 16 - OTHER INFORMATION

Prepared by: NSS ENTREPRISE INC. for Asalco Inc.
Telephone number: Telephone 819-876-2211 Fax 819-876-5373 Internet www.asalco.com

References:

1. Material Safety Data Sheets from manufacturer/supplier.
2. CSST, Répertoire Toxicologique, Les produits, 2012.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2012.

Abbreviations:

| | |
|-------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| AIHA | American Industrial Hygiene Association |
| CAS | Chemical Abstract Service |
| DSL | Domestic Substance List |
| IARC | International Agency for Research on Cancer |
| LC | Lethal concentration |
| LD | Lethal Dosage |
| N/Ap | Not applicable |
| N/Av | Not available |
| NIOSH | National Institute for Occupational Safety and Health |
| NTP | National Toxicology Program (U.S.A.) |
| OSHA | Occupational Safety and Health Administration (U.S.A.) |
| PEL | Permissible Exposure Limit |
| STEL | Short-term Exposure Limit |
| TLV | Threshold Limit Value |
| TSCA | Toxic Substances Control Act |
| TWA | Time Weighted Average |
| WEEL | Workplace Environmental Exposure Level |
| WHMIS | Workplace Hazardous Materials Information System |

End of the MSDS