# MATERIAL SAFETY DATA SHEET: NO-FROST AEROSOL

## Section I - General Information

( 0-000000- - 5195 )
[illegible] f Issue:
8) :007 12:00:00 AM
**Chemical Name & Synonyms:**
N/A
**Chemical Family:**
Alcohol/Glycol blend
**Manufacturer Name:**
CERTIFIED LABS, DIV. OF NCH CORP.
**Manufacturer Address:**
BOX 152170
IRVING, TEXAS 75015
**Prepared By:**
D HOLLAS/CHEMIST

**Supercedes:**
8/29/2001 12:00:00 AM
**Trade Name & Synonyms:**
NO-FROST AEROSOL
**Formula is a mixture:** [√]

**Product Code Number:**
5195

**Emergency Phone Number:**
800-424-9300

## Section II - Hazardous Ingredients

THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS

| Chemical Name (Ingredients) | Hazard | TLV | PEL | STEL | CAS # |
|---|---|---|---|---|---|
| METHANOL | FLAM/TOX | 200 ppm 1 | 200 ppm 2 | 250 ppm 1 | 67-56-1 |
| N-PROPANOL | FLAM/IRR | 100 ppm 1 | 200 ppm 2 | N/E | 71-23-8 |
| PROPYLENE GLYCOL | IRRITANT | N/E 1 | N/E 2 | N/E | 57-55-6 |
| CARBON DIOXIDE | ASPHYX | 5000 ppm 1 | 5000 ppm 2 | 30000 ppm1 | 124-38-9 |

## Section III - Physical Data

**Boiling Point (°F):** 148
**Vapor Pressure (mm Hg):** 3390.7
**Vapor Density (Air=1):** 1.5
**pH @ 100% :** N/E
**% Volatile by Volume:** 100
**$H_2O$ Solubility:** Complete

**Specific Gravity ($H_2O$=1):** 0.82
**Color:** Colorless
**Odor:** Mild Alcohol
**Clarity:** Transparent
**Evaporation Rate (BuAc=1):** 129.5
**Viscosity:** Non-Viscous

## Section IV - Fire and Explosion Hazard

**Flash Point:** 52°F
**Flammable Limits:** N-PROPANOL/METHANOL
**LEL:** 2.2%
**Method Used:** SETAFLASH
**UEL:** 36.0%
**Aerosol Level (NFPA 30B):** 2

**Extinguishing Media:**

[√] Foam [√] Alcohol Foam [√] CO2
[√] Dry Chemical [√] Water Spray [ ] Other

**NFPA 704 Hazard Rating:**

4-Extreme
3-High
2-Moderate
1-Slight
0-Insignificant

Health: 2
Flammability: 4
Instability: 0
Special:

**Special Fire Fighting Procedures:**

Firefighters should wear a self-contained breathing apparatus and full protective gear. Extinguishing media should be chosen based on the nature of the surrounding fire. Cool fire-exposed containers with water spray to prevent bursting.

**Unusual Fire and Explosion Hazards:**

Flame extension is >36 inches. Burnback is 3 inches. Vapors are heavier than air and may travel to distant and/or low-lying sources of ignition and flashback. The use of water spray (fog), while effective, may cause frothing and foaming. Never use a water jet as this will just spread the fire. Use care as spills may be slippery.

## Section V - Health and Hazard Data

**Threshold Limit Value:**

Not Established for Mixture. See Section II.

**Effects of Overexposure:**

**Acute: (Short Term Exposure)**

EYE CONTACT: Causes severe irritation seen as stinging, tearing, redness, and a burning sensation. Prolonged contact may cause conjunctivitis, corneal clouding, and possible corneal damage.
SKIN CONTACT: Causes irritation seen as itching and redness. Prolonged or repeated contact, as from clothing wet with material, may cause drying, defatting, and cracking of the skin. Product may be absorbed through the skin in harmful amounts.
INHALATION: Mist or vapor may cause respiratory irritation seen as coughing and sneezing. At low vapor concentrations, no harmful effects are expected. At high vapor concentrations, inhalation may cause central nervous system effects such as headache, dizziness, drowsiness, weakness, unconciousness, possible anesthetic effects from central nervous system depression, and may be fatal.
INGESTION: May cause irritation with possible nausea, vomiting, and diarrhea. Contains methanol, which may cause blindness or death if ingested. Swallowing as little as 1 to 2 ounces can result in metabolic acidosis, leading to optic nerve damage ranging from diminished visual capacity to complete blindness and death.Transient visual abnormalities that develop during acute intoxication may include blurred or double vision, changes in color perception, constricted visual fields, spots before the eyes, and sharply reduced visual acuity. Ingestion and subsequent vomiting of this product can lead to aspiration of the product into the lungs which can cause damage and may be fatal.

**Chronic: (Long Term Exposure)**

Methanol is slowly eliminated from the body, therefore it can have cumulative toxicity effects with repeated exposures. Exposure to this material may aggravate any pre-existing condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease, or anemia. Medical conditions aggravated by exposure are pre-existing respiratory and skin conditions such as asthma, emphysema, and dermatitis; pre-existing liver and ti[illegible] diseases.
[illegible] ORGANS: Heart, Liver, Lungs, Kidneys, Optic Nerves, and Central Nervous System. The primary routes of exposure are skin and eye contact.

**Primary Routes of Entry**

[√] Inhalation [√] Ingestion [√] Absorption

**Emergency First Aid Procedures:**



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**Inhalation:**
Remove from the area to fresh air. Seek medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eye Contact:**
Immediately rinse the eyes with water. Remove any contact lenses and continue flushing for at least 15 minutes. Hold the eyelids apart to ensure rinsing of the entire surface of the eyes and lids with water. Get immediate medical attention.

**Skin Contact:**
Wash affected areas with large amounts of soap and water for 15 minutes. Remove contaminated clothing and shoes. Seek medical attention if irritation persists. Wash clothing and clean shoes before re-use.

**Ingestion:**
Give 3 to 4 glasses of water, but DO NOT induce vomiting. If vomiting occurs, give fluids again. Get immediate medical attention. Do not give anything by mouth to an unconscious or convulsing person.

**Notes to Physician:**
Methanol is metabolized to Formaldehyde and Formic Acid. This in turn, may cause metabolic acidosis, visual disturbances and blindness. Because metabolism must occur before the toxic effects, toxic symptoms may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used as an antidote. Methanol is effectively removed by hemodialysis. Ingestion and subsequent vomiting of this product can lead to aspiration of the product into the lungs which can cause damage and may be fatal.

## Section VI - Toxicity Information

**Product Contains Chemicals Listed as Carcinogen or Potential Carcinogen By:**

[ ] IARC [ ] NTP [√] OSHA [ ] ACGIH [√] Other

VOC Content: 94.7% by weight.

METHANOL
ORL-RAT $LD_{50}$: 5,600 mg/kg 4.
IHL-RAT $LC_{50}$: 64,000 ppmk/4 hr 4.
SKN-RBT $LD_{50}$: 15,800 mg/kg 4.
SKN-RBT SDT: 20 mg/24 hr; moderate 4.
EYE-RBT SDT: 100 mg/24 hr; moderate 4.
EYE-RBT: severely irritating 3.

Subchronic inhalation studies with laboratory animals (conducted at approximately 30% of the $LC_{50}$) has shown specific abnormalities to the cardiovascular, musculoskeletal, and urogenital systems of the developing fetus. Reported effects also included fetotoxicity. 3.

Overexposure to this material (or to its components) has been suggested as a cause of central nervous system damage in laboratory animals and visual impairment in humans. 3.

N-PROPANOL
ORL-RAT $LD_{50}$: 1,870 mg/kg 3.
IHL-RAT $LC_{50}$: 4,000 mg/$m^3$/4 hr 3.
SKN-RBT $LD_{50}$: 5,040 mg/kg 3.
SKN-RBT OPEN IRRITATION TEST: 500 mg; mild 4.
EYE-RBT: severe irritation 3.
EYE-RBT-SDT: 20 mg/24 hr; moderate 4.

Carcinogenicity

Rats were exposed to N-Propanol orally by gavage at a dose of 240 mg/kg or subcutaneously at a dose of 48 mg/kg twice a week for their lifetime. Though li tumors were primarily noted, the evidence is inadequate for the assessment of carcinogenicity since the study was not conducted according to established scientific principles. N-Propanol was not carcinogenic in a mouse dermal study. 3.

May cause reproductive effects based on animal data. 3.
May cause liver damage based on animal data. 3.

N-Propanol was administered to rats via drinking water for 5, 9 or 13 weeks at a concentration of 320,000 mg/L. Effects included decreased body weight and changes in liver mitochondria. N-Propanol applied to the skin of rabbits for 30 days over a period of 6 weeks at a dose of 38 mL/kg/day resulted in mortality in one-third of the animals. 3.

PROPYLENE GLYCOL
ORL-RAT $LD_{50}$: >20,000 mg/kg 3.
SKN-RBT $LD_{50}$: >20,000 mg/kg 3.
IHL-RAT $TC_{Lo}$: 2,180 mg/$m^3$/6 hr/90 days-I 4.
SKN-HMN SDT: 104 mg/3 days (intermittent); Moderate 4.
EYE-RBT SDT: 500 mg/24 hr; Mild 4.

CARBON DIOXIDE
IHL-RAT $TC_{Lo}$: 10,000 ppm/24 sec - 30 days continuous 3.
IHL-HMN $LC_{Lo}$: 9 ppm/5 minutes 3.

It has been reported that persons may tolerate 1.5% in inhaled air for prolonged periods without adverse effects, but Calcium/Phosphorus metabolism may be affected with serum levels of Calcium and urinary Phosphorus progressively falling. At 2% concentration, deepened respiration may occur. At 3% impairment of performance has been noted. It has, however, been demonstrated that the development of tolerance may occur during prolonged exposure to low levels.
Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and expperimental animals.
Exposure of female rats to 60,000 ppm Carbon Dioxide for 24 hours has produces toxic effects to the embryo and fetus in pregnant rats. 3.

## Section VII - Reactivity Data

**Stability**
[√] Stable [ ] Unstable

**Conditions to Avoid:**
Avoid heat, hot surfaces, sparks, and open flames.

**Hazardous Polymerization**
[√] Will not occur [ ] May occur

**Conditions to Avoid:**
N/A.

**Incompatibility (Materials to Avoid):**
Strong oxidizing agents such as Chlorine bleach and concentrated Hydrogen Peroxide; acids and bases; metals such as Aluminum, Magnesium, and Lead. Chloroform, Mercuric Oxide, Iodine, Chromic Anhydride, Phosphorous Trioxide, Lead Perchlorate, Perchloric Acid, and Isocyanates; Sodium Peroxide and Cesium Monoxide; Lithium Acetylene Carbide Diamine.

**Hazardous Decomposition Products:**
Oxides of Carbon; Formaldehyde and other aldehydes; Ketones; Formic Acid.

## Section VIII - Spill Or Leak Procedures

**Steps to be Taken if Material is Released or Spilled:**

Due to the nature of the aerosol packaging, a large spill is unlikely. For a small spill, wear appropriate protective clothing, eliminate ignition sources of electrical, static, or frictional sparks, ventilate the area, absorb with an inert material, and transfer all material into a properly labeled container for disposal. Use care as spills may be slippery.

**Waste Disposal Method(s):**

Use of in accordance with all Federal, state, and local regulations. Typical disposal is to wrap the empty aerosol container in several layers of paper and dispose of in the trash. Aerosol recycling programs are available in many areas. Do not puncture or incinerate this container.

**Neutralizing Agent:**

N/A.

## Section IX - Special Protection Information

**Required Ventilation:**

Local ventilation is recommended to control exposure from operations that can generate excessive levels of mists or vapors. Local ventilation is preferred, because it prevents dispersion into work areas by controlling it at its source.

**Respiratory Protection:**

Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2-1992). For concentrations above the TLV and/or PEL but less than 10 times these limits, a NIOSH approved half-facepiece respirator equipped with appropriate chemical cartridges may be used. For concentrations greater than 10 times the TLV and/or PEL, consult the NIOSH respirator decision logic found in publication No. 87-116 or ANSI Z88.2-1992.

**Glove Protection:**

Neoprene or nitrile rubber gloves should be worn. Ensure compliance with OSHA's personal protective equipment (PPE) standard for hand protection, 29 CFR 1910.138.

**Eye Protection:**

Chemical goggles should be worn when handling. Ensure compliance with OSHA's Personal Protective Equipment (PPE) standard for eye and face protection, 29 CFR 1910.133.

**Other Protection:**

Wear protective clothing when handling. A safety shower and an eyewash station should be available. Remove soaked clothing and shoes. Wash clothing and clean shoes before re-use.

## Section X - Storage and Handling Information

**Storage Temperature**

Max: 120°F Min: 0°F

**Storage Conditions**

[√] Indoors [ ] Outdoors [ ] Heated [ ] Refrigerated

**Precautions to be Taken in Handling and Storing:**

Use with caution around heat, sparks, pilot lights, static electricity, and open flame. Empty containers may contain product residues which may exhibit the hazards of the product. To avoid possible explosion, do not pressurize, cut, weld, solder, drill, grind, or expose empty containers to heat, hot surfaces, sparks, or open flames.

**Other Precautions:**

Keep out of reach of children. Read the entire label before using the product. Follow the label directions.

## Section XI - Regulatory Information

| Chemical Name | CAS Number | Upper % Limit |
|---|---|---|
| METHANOL | 67-56-1 | 70 |

Those Ingredients listed above are subject to the reporting requirements of 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

Please call 1-800-527-9919 for additional information if you are a California customer. This MSDS is not intended for users in the state of California.

## Section XII - References

1. Threshold Limit Values for chemical substances and physical agents and biological exposure indices, ACGIH, 2007.
2. OSHA PEL.
3. Vendor's MSDS.
4. Registry of toxic effects of chemical substances, CCINFOWeb, 2007.
5. European Chemical Substances Information System (ESIS), International Uniform Chemical Information Database (IUCLID) Chemical Data Sheets.

All the components of this product are in compliance with the Toxic Substances Control Act (TSCA) and are either listed on the TSCA inventory or otherwise exempted from listing.

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IRR: Irritant, OSHA: Occupational Safety & Health Administration, IARC: International Agency for the Research on Cancer, TOX: Toxic, NFPA: National Fire Protection Association, ppm: Parts Per Million, UEL: Upper Explosion Limit, STEL: Short-term Exposure Limit, SKN: Skin, IHL: Inhalation, COMB: Combustible, CORR: Corrosive, MUT: Mutagenic, CARC: Carcinogenic, N/A: Not Applicable, TLV: Threshold Limit Value, N/E: Not Established, ORL: Oral, FLAM: Flammable, ASPHYX: Asphyxiant, C.O.C.: Cleveland Open Cup, PNOR: Particles Not Otherwise Regulated, LEL: Lower Explosion Limit, mg/L: Milligrams per Liter, PNOS: Particles Not Otherwise Specified, g/L: Grams per Liter, PMCC: Pensky-Martin Closed Cup, NTP: National Toxicology Program, µg/L: Micrograms per Liter, TCC: Tagliabue Closed Cup, SEV: Severe, RBT: Rabbit, INV: Intravenous, ACGIH: American Conference of Governmental Industrial Hygienists, PEL: Permissible Exposure Limit, MOD: Moderate, IPT: Intraperitoneal, gm/kg: Grams per Kilogram, C.C.C.: Cleveland Closed Cup, HMN: Human, mg/m3: Milligrams per Cubic Meter, mg/kg: Milligrams per Kilogram, VOC: Volatile Organic Compound, SDT: Standard Draize Test, MSE: Mouse, GPG: Guinea Pig.





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