# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **NN01697 NN OVEN CLN LITHO**

**Other means of identification**

**Product code** 1514

**Recommended use** Cleaner

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company name** PLZ AEROSCIENCE CORPORATION

**Address** 1000 INTEGRAM DRIVE
PACIFIC, MO 63069-3450
United States

**Telephone** General Assistance 1-636-334-9100

**E-mail** Not available.

**Emergency phone number** Emergency - US 1-866-836-8855
Emergency - Outside US 1-952-852-4646

**Supplier** Not available.

## 2. Hazard(s) identification

| | | |
|---|---|---|
| **Physical hazards** | Gases under pressure | Liquefied gas |
| **Health hazards** | Skin corrosion/irritation | Category 1 |
| | Serious eye damage/eye irritation | Category 1 |
| | Specific target organ toxicity, repeated exposure | Category 2 |

**Label elements**

**Signal word** Danger

**Hazard statement** Contains gas under pressure; may explode if heated. Causes severe skin burns and eye damage. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.

**Precautionary statement**

**Prevention** Do not breathe gas. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

**Response** IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Wash contaminated clothing before reuse.

**Storage** Store locked up. 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** None.

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|---|---|
| Diethylene Glycol Monobutyl Ether | | 112-34-5 | 10 - 30 |

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|---|---|
| Sodium Hydroxide | | 1310-73-2 | 3 - 7 |
| Monoethanolamine | | 141-43-5 | 1 - 5 |
| Propane | | 74-98-6 | 0.1 - 1 |
| Other components below reportable levels | | | 60 - 100 |

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

## 4. First-aid measures

**Inhalation**
Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**
Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. 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. Call a physician or poison control center immediately.

**Ingestion**
Not likely, due to the form of the product. Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Most important symptoms/effects, acute and delayed**
Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Prolonged exposure may cause chronic effects.

**Indication of immediate medical attention and special treatment needed**
Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

**General information**
If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire-fighting measures

**Suitable extinguishing media**
Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing media**
None known.

**Specific hazards arising from the chemical**
During fire, gases hazardous to health may be formed.

**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. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

**Specific methods**
Use standard firefighting procedures and consider the hazards of other involved materials.

**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 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**
Refer to attached safety data sheets and/or instructions for use. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Isolate area until gas has dispersed. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Cover with plastic sheet to prevent spreading. 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. For waste disposal, see section 13 of the SDS.

**Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling**

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. Ground and bond containers when transferring material. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Suck back of water into the container must be prevented. Do not allow backfeed into the container. Purge air from system before introducing gas. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Do not re-use empty containers. Do not breathe gas. Do not get in eyes, on skin, or on clothing. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Level 1 Aerosol.

Store locked up. 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. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Stored containers should be periodically checked for general condition and leakage. 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 | Form |
|---|---|---|---|
| Diethylene Glycol Monobutyl Ether (CAS 112-34-5) | TWA | 10 ppm | Inhalable fraction and vapor. |
| Monoethanolamine (CAS 141-43-5) | STEL | 6 ppm | |
| | TWA | 3 ppm | |
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 | |

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

| Components | Type | Value |
|---|---|---|
| Monoethanolamine (CAS 141-43-5) | STEL | 15 mg/m3 |
| | | 6 ppm |
| | TWA | 7.5 mg/m3 |
| | | 3 ppm |
| Propane (CAS 74-98-6) | TWA | 1000 ppm |
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 |

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

| Components | Type | Value |
|---|---|---|
| Monoethanolamine (CAS 141-43-5) | STEL | 6 ppm |
| | TWA | 3 ppm |
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 |

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

| Components | Type | Value | Form |
|---|---|---|---|
| Diethylene Glycol Monobutyl Ether (CAS 112-34-5) | TWA | 10 ppm | Inhalable fraction and vapor. |
| Monoethanolamine (CAS 141-43-5) | STEL | 6 ppm | |

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

| Components | Type | Value | Form |
|---|---|---|---|
| | TWA | 3 ppm | |
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 | |

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

| Components | Type | Value |
|---|---|---|
| Monoethanolamine (CAS 141-43-5) | STEL | 6 ppm |
| | TWA | 3 ppm |
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 |

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

| Components | Type | Value |
|---|---|---|
| Monoethanolamine (CAS 141-43-5) | STEL | 15 mg/m3 |
| | | 6 ppm |
| | TWA | 7.5 mg/m3 |
| | | 3 ppm |
| Propane (CAS 74-98-6) | TWA | 1800 mg/m3 |
| | | 1000 ppm |
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 |

**Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)**

| Components | Type | Value |
|---|---|---|
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 |

**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) and a face shield.

**Skin protection**

**Hand protection** Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

**Other** Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

**Respiratory protection** If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** 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** Gas.

**Form** Aerosol. Liquefied gas.

**Color** Not available.

**Odor** Not available.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** Not available.

| | |
|---|---|
| **Initial boiling point and boiling range** | 221.77 °F (105.43 °C) estimated |
| **Flash point** | -99.4 °F (-73.0 °C) Propellent estimated |
| **Evaporation rate** | Not available. |
| **Flammability (solid, gas)** | Not available. |
| **Upper/lower flammability or explosive limits** | |
| **Flammability limit - lower (%)** | 0.9 % estimated |
| **Flammability limit - upper (%)** | 24.6 % estimated |
| **Explosive limit - lower (%)** | Not available. |
| **Explosive limit - upper (%)** | Not available. |
| **Vapor pressure** | Not available. |
| **Vapor density** | Not available. |
| **Relative density** | Not available. |
| **Solubility(ies)** | |
| **Solubility (water)** | Not available. |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | 442.4 °F (228 °C) estimated |
| **Decomposition temperature** | Not available. |
| **Viscosity** | Not available. |
| **Other information** | |
| **Aerosol spray enclosed space** | |
| **Deflagration density** | 827 - 853 g/m³ |
| **Time equivalent** | 0 no ignition |
| **Explosive properties** | Not explosive. |
| **Heat of combustion (NFPA 30B)** | 13.71 kJ/g estimated |
| **Oxidizing properties** | Not oxidizing. |
| **Percent volatile** | 88.99 % estimated |
| **Specific gravity** | 0.977 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** | Hazardous polymerization does not occur. |
| **Conditions to avoid** | Heat. Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| **Incompatible materials** | Strong acids. |
| **Hazardous decomposition products** | No hazardous decomposition products are known. |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | May cause damage to organs through prolonged or repeated exposure by inhalation. May cause irritation to the respiratory system. |
| **Skin contact** | Causes severe skin burns.<br><br>Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans. |
| **Eye contact** | Causes serious eye damage. |
| **Ingestion** | Causes digestive tract burns. |

**Symptoms related to the physical, chemical and toxicological characteristics** Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

**Information on toxicological effects**

**Acute toxicity**

| Components | Species | Test Results |
|---|---|---|
| Diethylene Glycol Monobutyl Ether (CAS 112-34-5) | | |
| **Acute** | | |
| **Dermal** | | |
| LD50 | Rabbit | 2764 mg/kg, 24 Hours |
| | Rat | 2021 mg/kg |
| **Inhalation** | | |
| LC50 | Rat | 74 mg/l/4h |
| **Oral** | | |
| LD100 | Rabbit | 4000 mg/kg |
| LD50 | Guinea pig | 2000 mg/kg |
| | Mouse | 2410 mg/kg |
| | Rabbit | 2500 - 3000 mg/kg |
| | Rat | 7291 mg/kg |
| Monoethanolamine (CAS 141-43-5) | | |
| **Acute** | | |
| **Dermal** | | |
| LD50 | Rabbit | 2504 mg/kg, 24 Hours |
| | | 2.46 - 2.83 ml/kg, 24 Hours |
| **Inhalation** | | |
| LC50 | Rat | > 1.3 mg/l, 6 Hours |
| **Oral** | | |
| LD50 | Rat | 1089 mg/kg |
| | | 1.07 ml/kg |
| Propane (CAS 74-98-6) | | |
| **Acute** | | |
| **Inhalation** | | |
| LC50 | Mouse | 1237 mg/l, 120 Minutes |
| | | 52 %, 120 Minutes |
| | Rat | 1355 mg/l |
| | | 658 mg/l/4h |
| Sodium Hydroxide (CAS 1310-73-2) | | |
| **Acute** | | |
| **Dermal** | | |
| LD50 | Rat | 1350 mg/kg |

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

**Skin corrosion/irritation** Causes severe skin burns and eye damage.

**Serious eye damage/eye irritation** Causes serious eye damage.

**Respiratory or skin sensitization**

**Canada - Alberta OELs: Irritant**

| | |
|---|---|
| Monoethanolamine (CAS 141-43-5) | Irritant |
| Sodium Hydroxide (CAS 1310-73-2) | Irritant |

**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** | Risk of cancer cannot be excluded with prolonged exposure. |
| **Reproductive toxicity** | This product is not expected to cause reproductive or developmental effects. |
| **Specific target organ toxicity - single exposure** | Not classified. |
| **Specific target organ toxicity - repeated exposure** | Respiratory system. Skin. Central nervous system. Eyes. May cause damage to organs through prolonged or repeated exposure. |
| **Aspiration hazard** | Not likely, due to the form of the product. |
| **Chronic effects** | May cause damage to organs through prolonged or repeated exposure. May be harmful if absorbed through skin. Prolonged exposure may cause chronic effects.<br><br>Prolonged or repeated exposure may cause liver and kidney damage. These effects have not been observed in humans. |

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Components | | Species | Test Results |
|---|---|---|---|
| Diethylene Glycol Monobutyl Ether (CAS 112-34-5) | | | |
| **Aquatic** | | | |
| Crustacea | EC50 | Daphnia | 2803 mg/L, 48 Hours |
| Fish | LC50 | Bluegill (Lepomis macrochirus) | 1300 mg/l, 96 hours |
| | | Fish | 1304 mg/L, 96 Hours |
| Monoethanolamine (CAS 141-43-5) | | | |
| **Aquatic** | | | |
| Algae | IC50 | Algae | 15 mg/L, 72 Hours |
| Crustacea | EC50 | Daphnia | 65 mg/L, 48 Hours |
| Fish | LC50 | Fish | 96 Hours |
| | | Rainbow trout,donaldson trout (Oncorhynchus mykiss) | 114 - 196 mg/l, 96 hours |
| Sodium Hydroxide (CAS 1310-73-2) | | | |
| **Aquatic** | | | |
| Crustacea | EC50 | Water flea (Ceriodaphnia dubia) | 34.59 - 47.13 mg/l, 48 hours |
| Fish | LC50 | Fish | 45, 96 Hours |

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

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential**

| **Partition coefficient n-octanol / water (log Kow)** | |
|---|---|
| Diethylene Glycol Monobutyl Ether | 0.56 |
| Monoethanolamine | -1.31 |
| Propane | 2.36 |

**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 instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

| | |
|---|---|
| **Waste from residues / unused products** | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| **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 |
| **Transport hazard class(es)** | |
| **Class** | 2.2 |
| **Subsidiary risk** | 8 |
| **Packing group** | Not applicable. |
| **Environmental hazards** | D |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

This product meets the exemption requirements and may be shipped as a limited quantity.

**IATA**

| | |
|---|---|
| **UN number** | UN1950 |
| **UN proper shipping name** | Aerosols, non-flammable |
| **Transport hazard class(es)** | |
| **Class** | 2.2 |
| **Subsidiary risk** | 8 |
| **Label(s)** | 2.2,8 |
| **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 |
| **Transport hazard class(es)** | |
| **Class** | 2.2 |
| **Subsidiary risk** | 8 |
| **Label(s)** | 2.2,8 |
| **Packing group** | Not applicable. |
| **Environmental hazards** | |
| **Marine pollutant** | No. |
| **EmS** | Not available. |
| **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 applicable. |

**IATA; IMDG; TDG**


## 15. Regulatory information

**Canadian regulations**

**Controlled Drugs and Substances Act**

Not regulated.

**Export Control List (CEPA 1999, Schedule 3)**

Not listed.

**Greenhouse Gases**

Not listed.

**Precursor Control Regulations**

Not regulated.

**International regulations**

**Stockholm Convention**

Not applicable.

**Rotterdam Convention**

Not applicable.

**Kyoto protocol**

Not applicable.

**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) | No |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| 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** 04-16-2019

**Version #** 01

**Disclaimer** The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Revision information** Product and Company Identification: Alternate Trade Names