BOC
A Member of The Linde Group

# SAFETY DATA SHEET

**# 2642**

**Product Name** **3 COMPONENT MIXTURE (C2H3CL, O2, BALANCE NITROGEN)**

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

| | |
|---|---|
| **Supplier name** | **BOC LIMITED (AUSTRALIA)** |
| **Address** | 10 Julius Avenue, North Ryde, NSW, 2113, AUSTRALIA |
| **Telephone** | 131 262, (02) 8874 4400 |
| **Fax** | 132 427 (24 hours) |
| **Emergency** | 1800 653 572 (24/7) (Australia only) |
| **Web site** | http://www.boc.com.au/ |
| **Synonym(s)** | 2642 - SDS NUMBER • SPECIAL GAS MIXTURE |
| **Use(s)** | CALIBRATION • INDUSTRIAL APPLICATIONS |
| **SDS date** | 21 March 2013 |

## 2. HAZARDS IDENTIFICATION

**CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA**

**RISK PHRASES**

| | |
|---|---|
| R45 | May cause cancer. |

**SAFETY PHRASES**

| | |
|---|---|
| S7/9 | Keep container tightly closed and in a well ventilated place. |
| S44 | If you feel unwell, contact a doctor or Poisons Information Centre immediately (show label where possible). |
| S45 | In case of accident or if you feel unwell seek medical advice immediately (show the label where possible). |
| S53 | Avoid exposure - obtain special instructions before use. |

**CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**

| | | | |
|---|---|---|---|
| **UN number** | 1956 | **DG division** | 2.2 |
| **Packing group** | None Allocated | **Subsidiary risk(s)** | None Allocated |
| **Hazchem code** | 2TE | | |

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

| Ingredient | Identification | Classification | Content |
|---|---|---|---|
| OXYGEN | CAS: 7782-44-7<br>EC: 231-956-9 | O;R8 | <23% |
| VINYL CHLORIDE | CAS: 75-01-4<br>EC: 200-831-0 | Carc.;R45 F+;R12 | <1% |
| NITROGEN | CAS: 7727-37-9<br>EC: 231-783-9 | Not Available | Remainder |

## 4. FIRST AID MEASURES

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self

Contained Breathing Apparatus (SCBA). Be aware of possible explosive atmospheres. Apply artificial respiration if not breathing. Give oxygen if available. For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** Due to product form and application, ingestion is considered unlikely.

**Advice to doctor** Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

**Flammability** Non flammable.

**Fire and explosion** Temperatures in a fire may cause cylinders to rupture. Cool cylinders or containers exposed to fire by applying water from a protected location. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool. Do not approach cylinders or containers suspected of being hot. Heating vinyl chloride to decomposition will produce toxic fumes of chlorine. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool. Ensure work area is well ventilated before re-entry.

**Extinguishing** Use water fog to cool containers from protected area.

**Hazchem code** 2TE

| | |
|---|---|
| 2 | Water Fog (or fine water spray if fog unavailable) |
| T | Self Contained Breathing apparatus and protective gloves. |
| E | Evacuation of people in the vicinity of the incident should be considered. |

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions** If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use personal protective equipment as detailed in Section 8 of this SDS.

**Environmental precautions** Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

**Methods of cleaning up** Carefully move material to a well ventilated remote area, then allow to discharge if safe to do so. Do not attempt to repair leaking valve or cylinder safety devices.

**References** See Sections 8 and 13 for exposure controls and disposal.

## 7. STORAGE AND HANDLING

**Storage** Do not store near incompatible materials. Cylinders should be stored below 45°C in a secure area, upright and restrained to prevent cylinders from falling. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits.

**Handling** Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Do not drag, drop, slide or roll cylinders. The uncontrolled release of a gas under pressure may cause physical harm. Use a suitable hand truck for cylinder movement.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure standards**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m³ | ppm | mg/m³ |
| Nitrogen | SWA (AUS) | Asphyxiant | | | |
| Vinyl chloride, monomer | SWA (AUS) | 5 | 13 | -- | -- |

**Biological limits** No biological limit allocated.

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

**PPE**

| | |
|---|---|
| **Eye / Face** | Wear safety glasses. |
| **Hands** | Wear leather or cotton gloves. |
| **Body** | Wear coveralls and safety boots. |
| **Respiratory** | Where an inhalation risk exists, wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance** | COLOURLESS GAS |
| **Odour** | FAINT SWEET ODOUR |
| **Flammability** | NON FLAMMABLE |
| **Flash point** | NOT RELEVANT |
| **Boiling point** | NOT AVAILABLE |
| **Melting point** | NOT AVAILABLE |
| **Evaporation rate** | NOT APPLICABLE |
| **pH** | NOT APPLICABLE |
| **Vapour density** | 0.967 (Nitrogen) (Air = 1) |
| **Specific gravity** | NOT APPLICABLE |
| **Solubility (water)** | NOT AVAILABLE |
| **Vapour pressure** | NOT AVAILABLE |
| **Upper explosion limit** | NOT RELEVANT |
| **Lower explosion limit** | NOT RELEVANT |
| **Autoignition temperature** | NOT AVAILABLE |
| **Decomposition temperature** | NOT AVAILABLE |
| **Viscosity** | NOT AVAILABLE |
| **Partition coefficient** | NOT AVAILABLE |
| **% Volatiles** | 100 % |
| **Cylinder pressure (when full)** | 12000 to 13000 kPa @ 15°C |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **Chemical stability** | Stable under recommended conditions of storage. |
| **Conditions to avoid** | Avoid contact with incompatible substances. No known conditions to avoid. |
| **Material to avoid** | Long term exposure of vinyl chloride to air may result in formation of peroxides which can initiate explosive polymerisation. Can explode on contact with oxides of nitrogen. Corrosive when moist. |
| **Hazardous Decomposition Products** | May evolve toxic gases if heated to decomposition. |
| **Hazardous Reactions** | Polymerization will not occur. |

## 11. TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **Health Hazard Summary** | Toxic. This product has the potential to cause adverse health effects. Use safe work practices to avoid eye or skin contact and inhalation. Over exposure may result in cancer. Vinyl chloride is classified as carcinogenic to humans (IARC Group 1). The mixture contains vinyl chloride at concentrations above its recommended exposure standard. Chronic exposure to vinyl chloride has caused liver damage. Circulatory and bone changes in the fingertips have been reported in workers handling unpolymerised material. |
| **Eye** | Irritant. |
| **Inhalation** | Toxic by inhalation. Over exposure may result in cancer. Vinyl chloride is classified as carcinogenic to humans (IARC Group 1). Chronic exposure to vinyl chloride has caused liver damage. |
| **Skin** | Irritant. Contact may result in irritation. |
| **Ingestion** | Ingestion is considered unlikely due to product form. |
| | VINYL CHLORIDE (75-01-4) |

**Toxicity data**

VINYL CHLORIDE (75-01-4)

| | |
|---|---|
| LC50 (inhalation) | 18 pph/15 minutes (rat) |
| LCLo (inhalation) | 200 ppm/18 minutes (mammal) |
| LD50 (ingestion) | 500 mg/kg (rat) |

## 12. ECOLOGICAL INFORMATION

**Toxicity** No information provided.

**Persistence and degradability** No information provided.

**Bioaccumulative potential** No information provided.

**Mobility in soil** No information provided.

**Other adverse effects** Nitrogen is the major component of the atmosphere (78 % v/v). It is a fairly unreactive gas and will not contribute to ozone depletion or global warming. If released to soil or water, nitrogen will quickly disperse to the atmosphere. Not toxic to plants or animals except at extremely high (asphyxiating) levels. Vinyl chloride is not expected to bioconcentrate in aquatic organisms. Expected to polymerise and/or volatilise quickly. It breaks down in the atmosphere to form hydrogen chloride, chloroacetaldehyde, chloroethylene epoxide, formyl chloride, formaldehyde, formic acid and carbon monoxide.

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal** Cylinders should be returned to the manufacturer or supplier for disposal of contents.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

**CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**


| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|---|---|---|---|
| **UN number** | 1956 | - | - |
| **Proper shipping name** | COMPRESSED GAS, N.O.S. | - | - |
| **DG class/ Division** | 2.2 | - | - |
| **Subsidiary risk(s)** | None Allocated | - | - |
| **Packing group** | None Allocated | - | - |
| **GTEPG** | 2C1 | | |

**Hazchem code** 2TE

**Other information** Ensure cylinder is separated from driver and foodstuffs. Refer to Commonwealth, State and Territory Dangerous Goods Legislation which contain requirements which affect gas storage and transport.

## 15. REGULATORY INFORMATION

**Poison schedule** Classified as a Schedule 7 (S7) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Inventory Listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**

The storage of significant quantities of gas cylinders must comply with AS4332 The storage and handling of gases in cylinders.

Application Method: Gas regulator of suitable pressure and flow rating fitted to cylinder valve or manifold with low pressure gas distribution to equipment.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| GHS | Globally Harmonized System |
| IARC | International Agency for Research on Cancer |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| $mg/m^3$ | Milligrams per Cubic Metre |
| PEL | Permissible Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| REACH | Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| TLV | Threshold Limit Value |
| TWA/OEL | Time Weighted Average or Occupational Exposure Limit |

**Revision history**

| Revision | Description |
|---|---|
| 1.0 | Initial SDS Creation. |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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## End of SDS