

## SAFETY DATA SHEET

# 3021

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

#### 1.1 Product identifier

**Product name** 5 COMPONENT MIXTURE (G2HCL3, CFC-12, CFC-13, CFC-22, BALANCE N2)

**Synonym(s)** 3021 - SDS NUMBER

#### 1.2 Uses and uses advised against

**Use(s)** CALIBRATION • INDUSTRIAL APPLICATIONS

#### 1.3 Details of the supplier of the product

**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)

**Website** <http://www.boc.com.au>

#### 1.4 Emergency telephone number(s)

**Emergency** 1800 653 572 (24/7) (Australia only)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS (GHS ONLY) ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS classification(s)** Gases Under Pressure: Compressed gas

#### 2.2 Label elements

**Signal word** WARNING

**Pictogram(s)**



#### Hazard statement(s)

H280 Contains gas under pressure; may explode if heated.

#### Prevention statement(s)

None allocated.

#### Response statement(s)

None allocated.

#### Storage statement(s)

P410 + P403 Protect from sunlight. Store in a well-ventilated place.

#### Disposal statement(s)

None allocated.

#### 2.3 Other hazards

Asphyxiant. Effects are proportional to oxygen displacement.

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

#### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content (v/v)
NITROGEN	7727-37-9	231-783-9	Remainder
CHLORODIFLUOROMETHANE (HCFC-22)	75-45-6	200-871-9	<0.1%
CHLOROTRIFLUOROMETHANE (CFC-13)	75-72-9	200-894-4	<0.1%
DICHLORODIFLUOROMETHANE (CFC-12)	75-71-8	200-893-9	<0.1%
TRICHLOROETHYLENE	79-01-6	201-167-4	<0.1%

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

<b>Eye</b>	Adverse effects not expected from this product.
<b>Inhalation</b>	If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Apply artificial respiration if not breathing. Give oxygen if available. For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor.
<b>Skin</b>	Adverse effects not expected from this product.
<b>Ingestion</b>	Ingestion is not considered a potential route of exposure.
<b>First aid facilities</b>	None allocated.

#### 4.2 Most important symptoms and effects, both acute and delayed

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility / consciousness. Victim may not be aware of asphyxiation.

#### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

### 5. FIRE FIGHTING MEASURES

#### 5.1 Extinguishing media

Use water fog to cool containers from protected area.

#### 5.2 Special hazards arising from the substance or mixture

Non flammable.

#### 5.3 Advice for firefighters

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.

#### 5.4 Hazchem code

2TE	
2	Fine Water Spray.
T	Wear full fire kit and breathing apparatus. Dilute spill and run-off.
E	Evacuation of people in and around the immediate vicinity of the incident should be considered.

### 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use Personal Protective Equipment (PPE) as detailed in Section 8 of the SDS.

#### 6.2 Environmental precautions

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

#### 6.3 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.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

**7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

Use of safe work practices are recommended to avoid 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.

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

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.

**7.3 Specific end use(s)**

No information provided.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Chlorodifluoromethane	SWA (AUS)	1000	3540	--	--
Dichlorodifluoromethane	SWA (AUS)	1000	4950	--	--
Nitrogen	SWA (AUS)	Asphyxiant			
Trichloroethylene	SWA (AUS)	10	54	40	216

**Biological limits**

Ingredient	Determinant	Sampling Time	BEI
TRICHLOROETHYLENE	Trichloroacetic acid in urine	End of shift at end of workweek	15 mg/L
	trichloroethanol in blood (without hydrolysis)	End of shift at end of workweek	0.5 mg/L
	Trichloroethylene in blood	End of shift at end of workweek	-
	Trichloroethylene in end-exhaled air	End of shift at end of workweek	-

Reference: ACGIH Biological Exposure Indices

**8.2 Exposure controls**

**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 gloves.
- Body** Wear safety boots.
- Respiratory** Where an inhalation risk exists, wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator.



**9. PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

Appearance	COLOURLESS GAS
Odour	SLIGHT 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	NOT AVAILABLE
Specific gravity	NOT APPLICABLE
Solubility (water)	NOT AVAILABLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

**9.2 Other information**

% Volatiles	100 %
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**10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

Unreactive under normal conditions.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization will not occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Compatible with most commonly used materials. Avoid heating cylinders.

**10.6 Hazardous decomposition products**

This material will not decompose to form hazardous products other than that already present.

**11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Acute toxicity** Based on available data, the classification criteria are not met.

**Information available for the ingredient(s):**

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
CHLORODIFLUOROMETHANE (HCFC-22)	--	--	35 pph/15 minutes (rat)
CHLOROTRIFLUOROMETHANE (CFC-13)	--	--	700 000ppm/30 minutes
TRICHLOROETHYLENE	2402 mg/kg (mouse)	> 20,000 mg/kg (rabbit)	--

<b>Skin</b>	Not classified as a skin irritant.
<b>Eye</b>	Not classified as an eye irritant.
<b>Sensitisation</b>	Not classified as causing skin or respiratory sensitisation.
<b>Mutagenicity</b>	Not classified as a mutagen.
	Not classified as a carcinogen.

**PRODUCT NAME 5 COMPONENT MIXTURE (C2HCL3, CFC-12, CFC-13, CFC-22, BALANCE N2)****Carcinogenicity****Reproductive**

Not classified as a reproductive toxin.

**STOT - single exposure**

Asphyxiant. Effects are proportional to oxygen displacement. Over exposure may result in dizziness, drowsiness, weakness, fatigue, breathing difficulties and unconsciousness.

**STOT - repeated exposure**

Not classified as causing organ damage from repeated exposure.

**Aspiration**

Not classified as causing aspiration.

**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

No ecological damage caused by this product. 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.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****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)
<b>14.1 UN Number</b>	1956	1956	1956
<b>14.2 Proper Shipping Name</b>	COMPRESSED GAS, N.O.S. (Contains nitrogen)	COMPRESSED GAS, N.O.S. (Contains nitrogen)	COMPRESSED GAS, N.O.S. (Contains nitrogen)
<b>14.3 Transport hazard class</b>	2.2	2.2	2.2
<b>14.4 Packing Group</b>	None allocated.	None allocated.	None allocated.

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user****Hazchem code** 2TE**GTEPG** 2C1**EMS** F-C, S-V**Other information**

Ensure cylinder is separated from driver and that outlet of relief device is not obstructed. Refer to

**PRODUCT NAME 5 COMPONENT MIXTURE (C2HCL3, CFC-12, CFC-13, CFC-22, BALANCE N2)**

Commonwealth, State and Territory Dangerous Goods Legislation which contain requirements which affect gas storage and transport.

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## 15. REGULATORY INFORMATION

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### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

<b>Poison schedule</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
<b>Classifications</b>	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.  The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].
<b>Hazard codes</b>	None allocated.
<b>Risk phrases</b>	None allocated.
<b>Safety phrases</b>	None allocated.
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.

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## 16. OTHER INFORMATION

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**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 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 report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**PRODUCT NAME 5 COMPONENT MIXTURE (C2HCL3, CFC-12, CFC-13, CFC-22, BALANCE N2)**

<b>Abbreviations</b>	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
	EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
	GHS	Globally Harmonized System
	GTEPG	Group Text Emergency Procedure Guide
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	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
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

**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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