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Section 1: Identification of the material and supplier	
Product name	IG55
Recommended use	Fire extinguishing agent
Supplier identification	CEODEUX Extinguisher Valves Technology S.A. 24, rue de Diekirch, BP 19 L-7505 Lintgen Luxembourg Tel.: +352 32 78 32-1 Fax: +352 32 78 32-854 E-mail: info@rotarex.com

Section 2: Hazards identification		
Physical state	Gas. [NORMALLY A COLOURLESS GAS: MAY BE A CLEAR COLOURLESS LIQUID AT LOW TEMPERATURES. SOLD AS A COMPRESSED GAS IN STEEL CYLINDERS.]	
Emergency overview	WARNING! GAS: CONTENTS UNDER PRESSURE. Do not puncture or incinerate cylinder. Can cause rapid suffocation. May cause severe frostbite. LIQUID: Extremely cold liquid and gas under pressure. Can cause rapid suffocation. May cause severe frostbite. Do not puncture or incinerate cylinder. May cause target organ damage, based on animal data. Contact with rapidly expanding gases or liquids can cause frostbite.	
Target organs	May cause damage to the following organs: lungs.	
Routes of entry	Inhalation	
Potential acute health effects	***Eyes***	Contact with rapidly expanding gas may cause burns or frostbite. Contact with cryogenic liquid can cause frostbite and cryogenic burns.
	Skin	Contact with rapidly expanding gas may cause burns or frostbite. Contact with cryogenic liquid can cause frostbite and cryogenic burns.
	Inhalation	Acts as a simple asphyxiant.
	Ingestion	Ingestion is not a normal route of exposure for gases. Contact with cryogenic liquid can cause frostbite and cryogenic burns.
Potential chronic health effects	***Chronic effects***	May cause target organ damage, based on animal data.
	Target organs	May cause damage to the following organs: lungs.
Medical conditions aggravated by overexposure	Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by overexposure to this product.	

See toxicological information (Section 11)

Section 3: Composition / information on ingredients				
Component name	**CAS# / Codes**	**Concentration**	**R Phrases**	**EU Classification**
Argon	7440-37-1 EC#231-147-0	48-50%	None	Non-flammable gas
Nitrogen	7727-37-9 EC#231-783-9	50-52%	None	Non-flammable gas

Section 4: First aid measures	
No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.	
Eye contact	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
Skin contact	None expected.
Frostbite	Try to warm up the frozen tissues and seek medical attention.
Inhalation	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
Ingestion	As this product is a gas, refer to the inhalation section.

Section 5: Fire-fighting measures	
Flammability of the product	Non-flammable.
Products of combustion	Decomposition products may include the following materials: nitrogen oxides.
Fire-fighting media and instructions	Use an extinguishing agent suitable for the surrounding fire. Apply water from a safe distance to cool cylinder and protect surrounding area. If involved in fire, shut off flow immediately if it can be done without risk. Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the cylinder may burst or explode.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6: Accidental release measures	
Personal precautions	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Shut off gas supply if this can be done safely. Isolate area until gas has dispersed.
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Methods for cleaning up	Immediately contact emergency personnel. Stop leak if without risk. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7: Handling and storage	
Handling	High pressure gas. Do not puncture or incinerate cylinder. Use equipment rated for cylinder pressure. Close discharge valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement. Never allow any unprotected part of the body to touch uninsulated pipes or vessels that contain cryogenic liquids. Prevent entrapment of liquid in closed systems or piping without pressure relief devices. Some materials may become brittle at low temperatures and will easily fracture.
Storage	Cylinders should be stored upright, with the safety/shipping cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52°C (125°F). For additional information concerning storage and handling refer to Compressed Gas Association pamphlets P-1 Safe Handling of Compressed Gases in Containers and P-12 Safe Handling of Cryogenic Liquids available from the Compressed Gas Association, Inc.

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Section 8: Exposure controls / personal protection		
Engineering controls	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.	
Personal protection	***Eyes***	Safety eye-wear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. When working with cryogenic liquids, wear a full face shield.
	Skin	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
	Respiratory	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. The applicable standards are (US) 29 CFR 1910.134 and (Canada) Z94.4-93
	Hands	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Insulated gloves suitable for low temperatures.
	Personal protection in case of a large spill	Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product.
Product name	***IG55***	Oxygen Depletion [Asphyxiant]
Consult local authorities for acceptable exposure limits.		

Section 9: Physical and chemical properties	
Physical state	Compressed gas
Colour	Colourless
Odour	None
Flash point (PMCC) (°C/F)	Non-flammable
Solubility in water	Negligible
Boiling / condensation point	-190.1°C (-310.18°F)
Specific Volume	0.70810 m^3/kg (11.34267 ft^3/lb)
Gas Density	1.41223 kg/m^3 (0.08816 lb/ft^3)
Ozone depletion potential ODP	0
Global warming potential GWP	0

Section 10: Stability and reactivity	
Stability and reactivity	The product is stable.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11: Toxicological information	
Toxicity data	
Chronic effects on humans	May cause damage to the following organs: lungs.
Other toxic effects on humans	No specific information is available in our database regarding other toxic effects of this material to humans.
Specific effects	
Carcinogenic effects	No known significant effects or critical hazards.
Mutagenic effects	No known significant effects or critical hazards.
Reproduction toxicity	No known significant effects or critical hazards.

Section 12: Ecological information	
Aquatic eco-toxicity	Not available.
Environmental fate	Not available.
Environmental hazards	No known significant effects or critical hazards.
Toxicity to the environment	Not available.

Section 13: Disposal considerations

Products removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulations. Do not dispose of locally. Do not dispose of the product in the domestic waste or at any waste collection places.

Section 14: Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN1956	Compressed gases, n.o.s. (IG55)	2.2	Not applicable (gas).		**Limited quantity** Yes. **Packaging instruction Passenger aircraft** Quantity limitation: 75 kg **Cargo aircraft** Quantity limitation: 150 kg
TDG Classification	UN1956	Compressed gases, n.o.s. (IG55)	2.2	Not applicable (gas).		**Explosive Limit and Limited Quantity Index** 0.125 **Passenger Carrying Road or Rail Index** 75
Mexico Classification	UN1956	Compressed gases, n.o.s. (IG55)	2.2	Not applicable (gas).		-

"Refer to CFR 49 (or Authority Having Jurisdiction) to determine the information required for shipment of the product."

Section 15: Regulatory information

Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments (2001/60/EC and 2006/8/EC)

EU Hazard Symbol and Indication of Danger	Non-flammable gas. Not classified as a dangerous substance.
R phrases	None
S phrases	S9 Keep cylinder in a well-ventilated place.
US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS	
TSCA Listing	This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substances Control Act Chemical Substance Inventory.
EINECS Listing	All ingredients in this product are listed on the European Inventory of Existing Commercial Chemical Substances (EINECS) or the European List of Notified Chemical Substances (ELINCS) or are exempt from listing.
DSL/NDSL (Canadian) Listing	All ingredients in this product are listed on the Domestic Substances List (DSL) or the Non-Domestic Substances List (NDSL) or are exempt from listing.
WHMIS Classification	This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.
MA Right To Know Law	All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the minimum concentration include: Nitrogen - Argon
PA Right To Know Law	This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: Nitrogen - Argon

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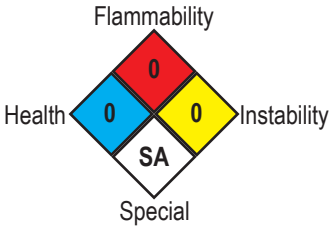
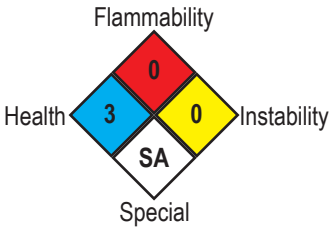
NJ Right To Know Law	This product contains the following chemicals found on the New Jersey Right To Know Hazardous Substance List: Nitrogen - Argon
California Proposition 65	This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.
SARA Title III Sect. 302 (EHS)	This product does not contain any chemicals subject to SARA Title III Section 302.
SARA Title III Sect. 304	This product does not contain any chemicals subject to SARA Title III Section 304.
SARA Title III Sect. 311/312 Categorization	Immediate (Acute) Health Hazard - Pressure Hazard
SARA Title III Sect. 313	This product does not contain a chemical which is listed in Section 313 at or above the minimum concentrations.

Section 16: Other information		
United States label requirements	GAS: CONTENTS UNDER PRESSURE. Do not puncture or incinerate cylinder. Can cause rapid suffocation. May cause severe frostbite. LIQUID: Extremely cold liquid and gas under pressure. Can cause rapid suffocation. May cause severe frostbite.	
Canada label requirements	Class A: Compressed gas.	
Hazardous Material Information System (U.S.A.)	***Health***	0
	Flammability	0
	Physical hazards	0
Hazardous Material Information System (U.S.A.) Liquid:	***Health***	3
	Fire hazard	0
	Reactivity	0
	Personal protection	
National Fire Protection Association (U.S.A.)		
National Fire Protection Association (U.S.A.) Liquid:		

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.