FIRE FIGHTING:

Use water spray to cool fire exposed surfaces and to protect personnel.
Shut off fuel to fire.
Use foam, dry chemical or water spray to extinguish fire.
Respiratory and eye protection required for fire fighting personnel.
Avoid spraying water directly into storage containers due to danger of boilover.
A self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. For small outdoor fires, which may easily be extinguished with a portable fire extinguisher, use of an SCBA may not be required.

HAZARDOUS COMBUSTION PRODUCTS:

Smoke, carbon monoxide, carbon dioxide, oxides of sulphur.
In addition, small amounts of nitrogen oxides will be formed.

8. REACTIVITY DATA

STABILITY:

This product is stable. Hazardous polymerization will not occur.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Strong oxidizing agents. Use product with caution around heat, sparks, pilo lights, static electricity and open flames.

HAZARDOUS DECOMPOSITION:

none

9. NOTES

All components of this product are listed on the U.S. TSCA inventory.

REVISED.

10. PREPARATION

Date Prepared: November 06, 2002
Prepared by: Lubricants & Specialties
IMPERIAL OIL
Products Division
111 St Clair Avenue West
Toronto, Ontario
M5W 1K3
(800) 268-3183

CAUTION: " The information contained herein relates only to this product or material and may not be valid when used in combination with any other product or material or in any process. If the product is not to be used for a purpose or under conditions which are normal or reasonably foreseeable, this information cannot be relied upon as complete or applicable. For greater certainty, uses other than those described in Section 1 must be reviewed with the supplier. The information contained herein is based on the information available at the indicated date of preparation. This MSDS is for the use of Imperial Oil customers and their employees and agents only. Any further distribution of this MSDS by Imperial Oil customers is prohibited without the written consent of Imperial Oil."

PRODUITS LUBRI-DELTA INC.
2215, boulevard Industriel
Chomedey, Laval QC H7S 1P8
(450) 629-4555 (514) 383-2784 FAX (514) 383-4241

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT INFORMATION

PRODUCT IDENTIFIER	**METHYL HYDRATE [Industrial solvent]**
PERSON IN CHARGE	LAURENT MILLETTE
TELEPHONE NUMBER	(450) 629-4555
DATE	June 2004
MSDS NUMBER	1727A
EMERGENCY CANADIAN CENTRE	**CANUTEC**
EMERGENCY TELEPHONE NUMBER	(613) 996-6666

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS	%	UN	CAS	TLV	DL50	CL50
METHANOL	100	1230	67-56-1	200	oral rat, 5 628 mg/kg skin rabbit, 20 000 mg/kg	inhalation rat, 64 000 ppm/4 hours

The data on this composition are defined according to dangerous goods law 13a) (i) to (iv) and 14a) paragraphs.

W.H.M.I.S. CODES	
Category B - Division 2	flammable liquids
Category D - Division 1 - Subdivision A	very toxic goods
Category D - Division 2 - Subdivision B	toxic goods
TRANSPORT CLASSIFICATION	**Class 3**

SECTION III - PHYSICAL DATA

MOLECULAR FORMULA	———
MOLECULAR WEIGHT	———
PHYSICAL STATE	liquid
APPEARANCE	clear liquid
COLOUR AND ODOUR	colourless with a light odour
ODOUR THRESHOLD [ppm]	100
DENSITY	0.795
FREEZING POINT °C	-80
MELTING POINT °C	———
BOILING POINT °C	75
VAPOUR PRESSURE [mmHg 20°C]	96
CONCENTRATION AT SATURATION	———
VAPOUR DENSITY [air = 1]	1.11
EVAPORATION RATE [buty acetate = 1]	1.62

SECTION III - PHYSICAL DATA [Cont'd.]

COEFFICIENT OF WATER/OIL DISTRIBUTION	insoluble in petroleum oils
pH	———
SOLUBILITY IN WATER AT SATURATION	———
PARTICULE SIZE	———

SECTION IV - FIRE OR EXPLOSION HAZARD

FLASH POINT AND METHOD OF DETERMINATION	12.2°C [tcc method]
UPPER FLAMMABLE LIMIT [%/volume]	36.5
LOWER FLAMMABLE LIMIT [%/volume]	5.5
AUTO-IGNITION TEMPERATURE	464°C
CONDITIONS OF FLAMMABILITY	vapours are heavier than air; if a leak occurs, propagation up to an ignition source can cause an explosion or fire
EXPLOSION CONDITIONS	———
EXPLOSION ON SENSITIVITY TO MECHANICAL IMPACT	no information available
EXPLOSION ON SENSITIVITY TO STATIC DISCHARGE	no information available
MEANS OF EXTINCTION	**for big fire:** use a water all fire foam **for small fire:** use carbonic gas [CO_2] or dry chemical powder **if only water is available:** use it as a mist Wear adequate clothing and self-respiratory apparatus
SPECIAL PRECAUTIONS	———
HAZARDOUS COMBUSTION PRODUCTS	carbon monoxide and dioxide [CO, CO_2] and irritant gas

SECTION V - REACTIVITY

CONDITIONS OF CHEMICAL INSTABILITY	stable
SUBSTANCES WITH WHICH THE PRODUCT IS INCOMPATIBLE	———
CONDITIONS OF REACTIVITY	**excessive temperature;** sparks; open flames; ignition sources
HAZARDOUS DECOMPOSITION PRODUCTS	carbon monoxide and dioxide [CO, CO_2]
POLYMERIZATION	———

SECTION VI - TOXICOLOGICAL PROPERTIES

SKIN CONTACT	risk of destruction of adipous tissues; dryness and chaps
EYE CONTACT	risk of conjunctiva; irritation; mucous inflammation; blindness
INHALATION	vapours irritate eyes, nose, throat, respiratory trachea; can cause depression of central nervous system; blindness
SKIN ABSORPTION	prolonged or repeated contact can cause dermatitis; depression of central nervous system; blindness
INGESTION	irritation of mouth mucous and throat; can cause depression of central nervous system; blindness can cause a metabolic acidose
EFFECTS OF ACUTE EXPOSURE TO PRODUCT	can cause coma and death; symptoms will appear between 12-18 hours
EFFECTS OF CHRONIC EXPOSURE TO PRODUCT	200 ppm
EXPOSURE LIMITS	———
IRRITANCY AND CORROSIVENESS	———
SENSITIZATION TO PRODUCT	no according to NTP [National Toxicology Program] and OSHA [Occupational Safety and Health Administration]
CARCINOGENICITY	no information available
REPRODUCTIVE TOXICITY	can cause teratogenicity embryotoxic effects according to the studies made on animals in laboratory, but only in high quantities; generally toxic
TERATOGENICITY	results to mutagenese on animals are negative and non-conclusive
MUTAGENICITY	unknown
TOXICOLOGICALLY SYNERGISTIC PRODUCTS	

SECTION VII - PREVENTIVE MEASURES

PROTECTIVE EQUIPMENT TO BE USED	NIOSH/IMSHA antidust respirator with cartridges against organic vapours for concentration up to 1 000 ppm; air adduction respirator for higher concentration [1 000 ppm and more]; rubber gloves; antiacid safety goggles; appropriate boots and apron; emergency shower and ocular fountain
ENGINEERING CONTROLS TO BE USED	avoid ignition sources; do not pour in drains or lakes/rivers; cover with absorbant products
PROCEDURES TO FOLLOW IN CASE OF LEAK OR SPILL	---------
WASTE DISPOSAL	call local authorities
HANDLING PROCEDURES AND EQUIPMENT	keep containers well closed; avoid contact with eyes, skin or clothing
STORAGE REQUIREMENTS	keep in a cool, well-ventilated area and away from strong comburants
SHIPPING INSTRUCTIONS	Class 3

SECTION VIII - FIRST AID MEASURES

INHALATION	take indisposed person outside; artificial reanimation ONLY if necessary; cardiorespiratory reanimation when needed; call a physician
EYE CONTACT	copious water flush [20 minutes]; if irritation persists: repeat the operation and call a physician
SKIN CONTACT	water and soap flush; if irritation persists: call a physician
INGESTION	if no convulsion crisis: give water or milk in order to provoke vomiting; call a physician
EMERGENCY	**QUEBEC ANTI-POISON CENTER AT 1-800-463-5060**
NOTE	if ingestion is less than 2 hours: proceed carefully with a gastric wash; ethelic alcohol can help methylic alcohol metabolism; 50% ethylic alcohol can be taken [½ - 1 ml/kg/weight] every 2-4 hours on a 4-day period

ECOLOGIC DATE

ECOTOXICITY	not available; in low concentrations, the product can be harmful for aquatic life
ENVIRONMENT	not available; possible danger if drinkable water is infiltrated; this product is harmful; do not contaminate domestic waters; lakes, ponds; gutters; rivers
SAFETY HANDLING OF RESIDUALS	empty containers retain residuals which are harmful; rinse the empty container 3 times with water and treat the rinse water as a waste
PACKAGING DISPOSITION	empty containers retain residuals which are harmful; do not expose the containers to heat, flames, sparks, static electricity or other ignition sources; it can explose and cause wounds or death; do not get rid of the packaging without having done a full rinse

REGULATIONS DATA

LCPE - RRSN	this product is on the LIS/LES list according to the Canadian Law on Protection of Environment
LCPE - INRP	this product is on the INRP list [Canada, Australia, Japan]
PROTECTION OF ENVIRONMENT	this product is on the dangerous goods list according to US-EPA

SECTION IX - PREPARATION INFORMATION

The informations contained in this document are given as a guide for the product manutention and were written in good faith by competent technical personnel. These informations should not be considered as complete because other aspects of manutention and uses could be observed. In no case, Produits Lubri-Delta Inc. could be held responsible for damages, losts and injuries resulting of the use of this product and no warranty whatsoever, tacit or express is awarded by PRODUITS LUBRI-DELTA INC.

This material safety data sheet is in effect for three (3) years

PRODUITS LUBRI-DELTA INC.
2215, boulevard Industriel
Chomedey, Laval QC H7S 1P8

Laurent Millette

Imperial Oil

MATERIAL SAFETY DATA SHEET

Date Prepared: November 05, 2003
Supersedes: July 19, 2002
MSDS Number: 08251

1. PRODUCT INFORMATION

Product Identifier: NUTO H 32

Application and Use:
Hydraulic fluid

Product Description:

A lubricating oil consisting of a mixture of saturated and unsaturated hydrocarbons derived from paraffinic distillate, and additives.

REGULATORY CLASSIFICATION

WHMIS:
Not a controlled product

CEPA: CANADIAN ENVIRONMENTAL PROTECTION ACT
All components of this product are either on the Domestic Substances List (DSL) or are exempt.

TDG INFORMATION (RAIL/ROAD):
Not Regulated in Canada.

Please be aware that other regulations may apply.

TELEPHONE NUMBERS		MANUFACTURER/SUPPLIER:
Emergency 24 hr.	(519) 339-2145	IMPERIAL OIL
Technical Info.	(800) 268-3183	Products Division
		111 St Clair Avenue West
		Toronto, Ontario
		M5W 1K3
		(416) 968-4441

2. REGULATED COMPONENTS

The following components are defined in accordance with sub-paragraph 13(a) (i) to (iv) or paragraph 14(a) of the Hazardous Products Act:

NAME	%	CAS #
Not applicable		

3. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Physical State: Liquid
Specific gravity: not available
Viscosity: 32.00 cSt at 40 deg C
Vapour Density: not available
Boiling Point: 322 to 600 deg C
Evaporation rate: <0.1 (1= n-butylacetate)
Solubility in water: negligible
Freezing/Pour Point: -33 deg C ASTM D97
Odour Threshold: not available
Vapour Pressure: <1 kPa at 38 deg C
Density: 0.86 g/cc at 15 deg C
Appearance/odour: Clear amber liquid, mild petroleum odour.

4. HEALTH HAZARD INFORMATION

NATURE OF HAZARD

INHALATION:

Negligible hazard at normal temperatures (up to 38 deg C).
Elevated temperatures or mechanical action may form vapours, mists or fumes which may be irritating to the eyes, nose, throat and lungs.
Avoid breathing vapours or mists.

EYE CONTACT:

Slightly irritating, but will not injure eye tissue.

SKIN CONTACT:

Low toxicity.
Frequent or prolonged contact may irritate the skin.

INGESTION:

Low toxicity.

ACUTE TOXICITY DATA:

Based on animal testing data from similar materials and products, the acute toxicity of this product is expected to be:

Oral	:	LD50 > 5000 mg/kg (Rat)
Dermal	:	LD50 > 3160 mg/kg (Rabbit)
Inhalation	:	LC50 > 5000 mg/m3 (Rat)

OCCUPATIONAL EXPOSURE LIMIT:

ACGIH recommends:
For oil mists, 5 mg/m3.

Local regulated limits may vary.

5. FIRST AID MEASURES

INHALATION:

Vapour pressure of this material is low and as such inhalation under normal conditions is usually not a problem. If overexposed to oil mist, remove from further exposure. Administer artificial respiration if breathing has stopped. Keep at rest. Call for prompt medical attention.

EYE CONTACT:

Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:

Flush with large amounts of water. Use soap if available.
Remove severely contaminated clothing (including shoes) and launder before reuse.
If irritation persists, seek medical attention.

INGESTION:

If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

6. PREVENTIVE AND CORRECTIVE MEASURES

PERSONAL PROTECTION:

The selection of personal protective equipment varies, depending upon conditions of use.
In open systems where contact is likely, wear safety goggles, chemical-resistant overalls, and chemically impervious gloves.
Where only incidental contact is likely, wear safety glasses with side shields. No other special precautions are necessary provided skin/eye contact is avoided.
Where concentrations in air may exceed the occupational exposure limits given in Section 4 and where engineering, work practices or other means

of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation.

ENGINEERING CONTROLS:

The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces.

HANDLING, STORAGE AND SHIPPING:

Keep containers closed. Handle and open containers with care.
Store in a cool, well ventilated place away from incompatible materials.
In keeping with good personal hygiene practices, wash hands thoroughly after handling the material.
Do not handle or store near an open flame, sources of heat, or sources of ignition.
Empty containers may contain product residue. Do not pressurize cut, heat, or weld empty containers. Do not reuse empty containers without commercial cleaning or reconditioning.

LAND SPILL:

Eliminate source of ignition. Keep public away. Prevent additional discharge of material, if possible to do so without hazard.
Prevent spills from entering sewers, watercourses or low areas. Contain spilled liquid with sand or earth.
Recover by pumping or by using a suitable absorbant.
Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately.
Take all additional action necessary to prevent and remedy the adverse effects of the spill.

WATER SPILL:

Remove from surface by skimming or with suitable absorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in unconfined waters.
Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately.
Take all additional action necessary to prevent and remedy the adverse effects of the spill.

7. FIRE AND EXPLOSION HAZARD

Flashpoint and method: 200 deg C COC ASTM D92

Autoignition: NA Flammable Limits: LEL: NA UEL: NA

GENERAL HAZARDS:

Low Hazard; liquids may burn upon heating to temperatures at or above the

flash point.
Toxic gases will form upon combustion.

FIRE FIGHTING:

Use water spray to cool fire exposed surfaces and to protect personnel.
Shut off fuel to fire.
Use foam, dry chemical or water spray to extinguish fire.
Respiratory and eye protection required for fire fighting personnel.
Avoid spraying water directly into storage containers due to danger of boilover.
A self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. For small outdoor fires, which may easily be extinguished with a portable fire extinguisher, use of an SCBA may not be required.

HAZARDOUS COMBUSTION PRODUCTS:

Smoke, carbon monoxide, carbon dioxide under thermal decomposition.

8. REACTIVITY DATA

STABILITY:

This product is stable. Hazardous polymerization will not occur.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Strong oxidizing agents

HAZARDOUS DECOMPOSITION:

none

9. NOTES

All components of this product are listed on the U.S. TSCA inventory.

REVISION SUMMARY:
Since 19 July 2002, this MSDS has been revised in Section(s):
3

10. PREPARATION

Date Prepared: November 05, 2003
Prepared by: Lubricants & Specialties
IMPERIAL OIL

Products Division
111 St Clair Avenue West
Toronto, Ontario
M5W 1K3
(800) 268-3183

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BOC GASES

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: OXYGEN

1. Product and Company Identification

BOC Gases,
Division of,
The BOC Group, Inc.
575 Mountain Avenue
Murray Hill, NJ 07974

TELEPHONE NUMBER: (908) 464-8100
24-HOUR EMERGENCY TELEPHONE NUMBER:
CHEMTREC (800) 424-9300

BOC Gases
Division of
BOC Canada Limited
5975 Falbourne Street, Unit 2
Mississauga, Ontario L5R 3W6

TELEPHONE NUMBER: (905) 501-1700
24-HOUR EMERGENCY TELEPHONE NUMBER:
(905) 501-0802
EMERGENCY RESPONSE PLAN NO: 2-0101

PRODUCT NAME: OXYGEN
CHEMICAL NAME: Oxygen
COMMON NAMES/SYNONYMS: None
TDG (Canada) CLASSIFICATION: 2.2 (5.1)
WHMIS CLASSIFICATION: A, C

PREPARED BY: Loss Control (908)464-8100/(905)501-1700
PREPARATION DATE: 6/1/95
REVIEW DATES: 11/11/03

2. Composition, Information on Ingredients

EXPOSURE LIMITS[1]:

INGREDIENT	% VOLUME	PEL-OSHA[2]	TLV-ACGIH[3]	LD_{50} or LC_{50} Route/Species
Oxygen FORMULA: O_2 CAS: 7782-44-7 RTECS #: RS2060000	99.6 to 100.0	Not Applicable	Not Applicable	Not Available

[1] Refer to individual state or provincial regulations, as applicable, for limits which may be more stringent than those listed here.
[2] As stated in 29 CFR 1910, Subpart Z (revised July 1, 1993)
[3] As stated in the ACGIH 2003 Threshold Limit Values for Chemical Substances and Physical Agents.

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

3. Hazards Identification

EMERGENCY OVERVIEW

Odorless, colorless, non-flammable gas. Oxidizer. Will accelerate combustion and increase the risk of fire and explosion in combustible or flammable materials. Non-toxic. Prolonged inhalation of high concentrations may cause coughing and lung effects. Contents under pressure. Use and store below 125 °F.

ROUTE OF ENTRY:

Skin Contact	Skin Absorption	Eye Contact	Inhalation	Ingestion
No	No	No	Yes	No

HEALTH EFFECTS:

Exposure Limits	Irritant	Sensitization
No	No	No
Teratogen	Reproductive Hazard	Mutagen
No	No	No
Synergistic Effects None known		

Carcinogenicity: -- NTP: No IARC: No OSHA: No

EYE EFFECTS: Harmful effects are not expected.

SKIN EFFECTS: Harmful effects are not expected.

INGESTION EFFECTS: Not applicable. Product is a gas.

INHALATION EFFECTS: Oxygen is not acutely toxic under normal pressure. Prolonged inhalation of high oxygen concentrations (> 75%) may affect coordination, attention, and cause tiredness or respiratory irritation. Inhalation for several hours may cause cough, sore throat, chest pain and difficulty breathing.

Oxygen is more toxic when inhaled at elevated pressures. Depending upon pressure and duration of exposure, pure oxygen at elevated pressures (i.e.: divers) may cause cramps, dizziness, difficulty breathing, convulsions, edema, and death.

Elevated oxygen concentrations in incubators has caused visual impairment and blindness in premature infants. High oxygen concentrations primarily affect eyes which are not fully developed (see Section 11).

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: May aggravate chronic obstructive pulmonary (lung) disease.

POTENTIAL ENVIRONMENTAL EFFECTS: Not expected to be toxic to fish and wildlife.

4. First Aid Measures

EYES: None required.

SKIN: None required.

INGESTION: None required.

INHALATION: Overexposure to oxygen is not anticipated under normal working conditions. High oxygen concentrations in the air may present a fire and explosion hazard. PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES WHEN OXYGEN IS INHALED UNDER PRESSURE (i.e.: as in scuba diving). Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Further treatment should be symptomatic and supportive. Inform the treating physician that the patient could be experiencing hyperoxia.

5. Fire Fighting Measures

Conditions of Flammability: Not flammable, Oxidizer		
Flash point: None	Method: Not Applicable	Autoignition Temperature: None
LEL(%): None	UEL(%): None	
Hazardous combustion products: None		
Sensitivity to mechanical shock: None		
Sensitivity to static discharge: None		

FIRE AND EXPLOSION HAZARDS: High oxygen concentrations vigorously accelerate combustion. Will support or initiate combustion/ explosion of organic matter and other oxidizable material. Cylinder may vent rapidly or rupture violently from pressure when involved in a fire situation.

EXTINGUISHING MEDIA: Water spray to keep cylinders cool. Extinguishing agent appropriate for the combustible material.

FIRE FIGHTING INSTRUCTIONS: If possible, stop the flow of oxygen which is supporting the fire. Firefighters should wear respiratory protection (SCBA) and full turnout or Bunker gear. Continue to cool fire-exposed containers until well after flames are extinguished.

6. Accidental Release Measures

Evacuate all personnel from affected area. A leak near combustible or flammable materials may represent a severe fire or explosion hazard. Eliminate all ignition sources. Ventilate enclosed areas. If it can be done without risk, stop the flow of gas or remove cylinder to outside. Use appropriate protective equipment (See Section 8). If leak is in user's equipment, be certain to purge piping with inert gas prior to attempting repairs. If leak is in container or container valve, contact the appropriate emergency telephone number listed in Section 1 or call your closest BOC location.

7. Handling and Storage

Electrical classification: Nonhazardous

Dry product is noncorrosive and may be used with all materials of construction. Moisture causes metal oxides which are formed with air to be hydrated so that they include volume and lose their protective role (rust formation). Concentrations of SO_2, Cl_2, salt, etc. in the moisture enhances the rusting of metals in air. Carbon steels and low alloy steels are acceptable for use at lower pressures.

For high pressure applications stainless steels are acceptable as are copper and its alloys, nickel and its alloys, brass bronze, silicon alloys, Monel ®, Inconel ® and beryllium. Lead and silver or lead tin alloys are good gasket materials. Teflon ®, Teflon ® composites, or Kel-F ® are preferred non-metallic gasket materials.

Oxygen should not be used as a substitute for compressed air in pneumatic equipment since this type generally contains flammable lubricants. Equipment to contain oxygen must be "cleaned for oxygen service". Check with the supplier to verify oxygen compatibility for the service conditions.

Stationary customer site vessels should operate in accordance with the manufacturer's and BOC's instruction. Do not attempt to repair, adjust or in any other way modify the operation of these vessels. If there is a malfunction or other type of operations problem with the vessel, contact the closest BOC location immediately. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the system. Do not insert any object (i.e.: screwdriver) into valve cap openings as this can damage the valve causing leakage.

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas, emergency exits, flammables and combustibles. Do not allow the temperature where cylinders are stored to exceed 125°F (52°C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "NO SMOKING OR OPEN FLAMES" signs in the storage area or use area. There should be no sources of ignition in the storage or use area.

For additional storage recommendations, consult Compressed Gas Association's Pamphlets SB-7, G 4.3, G4.1, G-4.4, P-2.5, P-2.6, G-4.9, P-14, P-1, SB-2.

Do not release in a confined area. Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid form in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, explosion, or a toxic exposure.

8. Exposure Controls, Personal Protection

ENGINEERING CONTROLS: Use general ventilation and/or local exhaust as necessary to keep oxygen concentrations below 23.5%.

EYE/FACE PROTECTION: Safety goggles or glasses as appropriate for the job.

SKIN PROTECTION: Protective gloves made of any suitable material appropriate for the job. Gloves must be clean and free from oil and grease.

OTHER/GENERAL PROTECTION: Safety shoes.

9. Physical and Chemical Properties

PARAMETER	VALUE	UNITS
Physical state (gas, liquid, solid)	: Gas	
Vapor pressure	: Above critical temp.	
Vapor density (Air = 1)	: 1.11	
Evaporation point	: Not Available	
Boiling point	: -297.3	°F
	: -182.9	°C
Freezing point	: -361.8	°F
	: -218.8	°C
pH	: Not Applicable	
Specific gravity at STP	: Not Available	
Oil/water partition coefficient	: Not Available	
Solubility (H_20)	: Slight 0.0491	v/v @ 32 °F; 0 °C
Odor threshold	: Not Applicable	
Odor and appearance	: Colorless, odorless gas	

10. Stability and Reactivity

STABILITY: Stable.

INCOMPATIBLE MATERIALS/CONDITIONS: All flammable, organic, and combustible materials. Avoid heat, sparks, flames, and other ignition sources.

HAZARDOUS DECOMPOSITION PRODUCTS: None.

HAZARDOUS POLYMERIZATION: Will not occur.

11. Toxicological Information

SKIN AND EYE:
The incompletely developed retinal circulation is more susceptible to toxic levels of oxygen. In premature infants, arterial oxygen tension above 150 mm Hg may cause retrolental fibroplasia. Permanent blindness may occur several months later. One case of severe retinal damage in an adult was reported. An individual suffering from myasthenia gravis developed irreversible retinal atrophy after breathing 80% oxygen for 150 days.

INHALATION:
Human volunteers which inhaled 90-95% oxygen through a face mask for 6 hours showed signs of tracheal irritation and fatigue. Other symptoms (which might have been caused by placing a tube into the trachea during the experiment) included: sinusitis, conjunctivitis, fever, and symptoms of acute bronchitis.

Poisoning began in dogs 36 hours after inhalation of pure oxygen at atmospheric pressure. Distress was seen within 48 hours and death within 60 hours.

12. Ecological Information

Product does not contain Class I or Class II ozone depleting substances. Not toxic. Will not bioconcentrate.

13. Disposal Considerations

Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED, WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to BOC Gases or authorized distributor for proper disposal.

14. Transport Information

PARAMETER	United States DOT	Canada TDG
PROPER SHIPPING NAME:	Oxygen, compressed	Oxygen, compressed
HAZARD CLASS:	2.2 (5.1)	2.2 (5.1)
IDENTIFICATION NUMBER:	UN 1072	UN 1072
SHIPPING LABEL:	NONFLAMMABLE GAS, OXIDIZER	NONFLAMMABLE GAS, OXIDIZER

15. Regulatory Information

SARA TITLE III NOTIFICATIONS AND INFORMATION
SARA 313: This product does not contain ingredients subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 49 CFR Part 372.

SARA TITLE III - HAZARD CLASSES:
Fire Hazard
Sudden Release of Pressure Hazard

U.S. TSCA/Canadian DSL: All ingredients are listed on the U.S. Toxic Substances Control Act (TSCA) inventory or exempt from listing and on the Canadian Domestic Substance List (DSL).

California Proposition 65: This product does not contain ingredient(s) known to the State of California to cause cancer or reproductive toxicity.

Canadian Controlled Products Regulations (CPR): This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. Other Information

NFPA HAZARD CODES	HMIS HAZARD CODES	RATINGS SYSTEM
Health: 0	Health: 0	0 = No Hazard
Flammability: 0	Flammability: 0	1 = Slight Hazard
Instability: 0	Reactivity: 0	2 = Moderate Hazard
		3 = Serious Hazard
OXIDIZER		4 = Severe Hazard

Note: The Reactivity Hazard Rating is based on the 2nd Edition of the National Paint and Coatings Association's (NPCA's) Hazardous Materials Identification System (HMIS®). Hazard ratings were based on the best available information at the time of the review. Ratings will be reassigned in accordance with Compressed Gas Association (CGA) guidelines as published in the future edition of CGA Pamphlet P-19.

ACGIH	American Conference of Governmental Industrial Hygienists
DOT	Department of Transportation
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
STEL	Short Term Exposure Limit
TDG	Transportation of Dangerous Goods
TLV	Threshold Limit Value
WHMIS	Workplace Hazardous Materials Information System

Compressed gas cylinders shall not be refilled without the express written permission of the owner. Shipment of a compressed gas cylinder which has not been filled by the owner or with his/her (written) consent is a violation of transportation regulations.

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES:

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

Material Safety Data Sheet / Fiche signalétique

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SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME:	**550X POLYMER**
CHEMICAL FAMILY:	Copolymer of Acrylamide and Sodium Acrylate
PRODUCT USE:	Drilling Mud Additive
WHMIS CLASSIFICATION:	Not a Controlled Product under WHMIS
WORK PLACE HAZARD:	Not applicable

TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION:	Not applicable
PACKAGE GROUP:	Not applicable
PRODUCT IDENTIFICATION NUMBER (PIN):	Not applicable

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50	LC50
No Hazardous Ingredients				

SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY:
[ ] Skin, [ ] Eye Contact, [XXX] Inhalation, [ ] Ingestion

SKIN CONTACT:	Prolonged contact may cause skin irritation or dermatitis in some individuals.
EYE CONTACT:	May cause irritation.
INHALATION:	May cause sneezing, slight irritation of nose and throat.
INGESTION:	Not available
EFFECTS OF ACUTE EXPOSURE:	Not available
EFFECTS OF CHRONIC EXPOSURE:	Not available

SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.
EYE CONTACT: Immediately flush eyes with water for fifteen (15) minutes and call a physician.
INHALATION: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.
INGESTION: Do not induce vomiting. If conscious, dilute by giving two glasses of water. Call a physician immediately.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR:	White granular solid; faint odor
DENSITY (SPECIFIC GRAVITY):	0.80
BOILING POINT:	Decomposes
MELTING POINT:	Not applicable
WATER SOLUBILITY:	Soluble
% VOLATILE BY VOLUME:	Not applicable
EVAPORATION RATE:	Not applicable
VAPOR PRESSURE (mm Hg):	Very low
VAPOR DENSITY (Air = 1):	Not applicable