

SAFETY DATA SHEET

INGERSOLL RAND

Product name: Ingersoll Rand Techtrol Gold III

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INGERSOLL RAND encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Ingersoll Rand Techtrol Gold III

Recommended use of the chemical and restrictions on use

Identified uses: Selection of the appropriate polyglycol product for a specific application requires knowledge of the fluid requirements of the application, awareness of the most important of these requirements, and a match-up with the properties of the various polyglycol materials. Polyglycol products can be formulated for use in numerous industry applications such as hydraulic fluids, quenchants, compressor and refrigeration lubricants, heat transfer fluids, machinery lubricants, solder assist fluids, metalworking lubricants, textile finishing, etc.

COMPANY IDENTIFICATION

DISTRIBUTED BY
INGERSOLL RAND
800D BEATY ST
DAVIDSON, NC 28036
UNITED STATES

Customer Information Number: +01 704-655-4000

EMERGENCY TELEPHONE NUMBER

U.S. 24-Hour Emergency #: 800-424-9300

Outside U.S. Emergency #: +01 703-527-3887

2. HAZARDS IDENTIFICATION

Hazard classification

Not classified as hazardous according to regulatory criteria.

Other hazards

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

CASRN / EC-Index-No. /	Concentration	Component	Classification
CASRN Confidential EC-No. Polymer Index-No. —	> 60.0 - < 70.0 %	Polypropylene Glycol	Not classified
CASRN Confidential EC-No. Confidential Index-No. —	> 25.0 - < 30.0 %	Pentaerythritol ester	Not classified

4. FIRST AID MEASURES

Description of first aid measures

General advice: If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin contact: Wash off with plenty of water.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to section 7, Handling, for additional precautionary measures.

Environmental precautions: Material will float on water. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: No special precautions required. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Conditions for safe storage: Store in the following material(s): 316 stainless steel. Carbon steel. Glass-lined container. Polypropylene. Polyethylene-lined container. Stainless steel. Teflon. This material may soften and lift certain paint and surface coatings. Use product promptly after opening. Store in original unopened container. Unopened containers of material stored beyond the recommended shelf life should be retested against the sales specifications before use. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage stability:

Shelf life: Use within
24 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.
None established

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, boots, apron, or full-body suit will depend on the task.

Respiratory protection: Under intended handling conditions, no respiratory protection should be needed.

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	Liquid.
Color	Yellow to brown
Odor	Mild
Odor Threshold	No test data available
pH	8 - 10 <i>DOWM 101495</i> (16% in water/methanol, 1:10)
Melting point/range	Not applicable to liquids

Freezing point	See Pour Point
Boiling point (760 mmHg)	> 200 °C <i>Calculated.</i>
Flash point	closed cup 234 °C <i>ASTM D 93</i>
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	< 0.01 mmHg at 20 °C <i>ASTM E1719</i>
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	0.9850 at 25 °C / 25 °C <i>ASTM D941</i>
Water solubility	< 0.1 % at 20 °C <i>Measured</i>
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Kinematic Viscosity	25 - 28 cSt at 37.8 °C <i>ASTM D 445</i>
Explosive properties	no data available
Oxidizing properties	no data available
Liquid Density	0.9826 g/cm ³ at 25 °C <i>ASTM D941</i>
Molecular weight	no data available
pour point	< 0 °C <i>ASTM D97</i>

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Alcohols. Ethers. Hydrocarbons. Ketones. Organic acids. Polymer fragments.

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

For similar material(s):

LD50. rat. > 5,000 mg/kg

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

For similar material(s):

LD50. rabbit. > 2,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. For respiratory irritation and narcotic effects: No relevant data found.

As product: The LC50 has not been determined.

Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.

Repeated contact may cause severe skin irritation with local redness and discomfort.

Serious eye damage/eye irritation

May cause slight temporary eye irritation.

Corneal injury is unlikely.

Sensitization

For similar material(s):

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on available data, repeated exposures to small amounts are not anticipated to cause significant adverse effects.

Carcinogenicity

No specific, relevant data available for assessment.

Teratogenicity

No specific, relevant data available for assessment.

Reproductive toxicity

No specific, relevant data available for assessment.

Mutagenicity

No relevant data found.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:

Polypropylene Glycol

Acute inhalation toxicity

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. For respiratory irritation and narcotic effects: No relevant data found.

As product: The LC50 has not been determined.

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

Toxicity

Acute toxicity to fish

|| Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LL50 *Oncorhynchus mykiss* (rainbow trout) static test 96 Hour > 100 mg/l

Acute toxicity to aquatic invertebrates

EL50 *Daphnia magna* (Water flea) static test 48 Hour > 100 mg/l

Persistence and degradability

Biodegradability

Based on information for a similar material: Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability). Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail Based on information for a similar material:

Biodegradation: < 41 %

Exposure time: 28 d

Method: OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable Based on information for a similar material:

Biodegradation: 84 %

Exposure time: 28 d

Method: OECD Test Guideline 302B or Equivalent

Bioaccumulative potential

Bioaccumulation: No data available for this product.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

This mixture has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Other adverse effects

No specific, relevant data available for assessment.

13. DISPOSAL CONSIDERATIONS

Disposal methods:

Any disposal practice must be in compliance with all local and national laws and regulations. Do not dump into any sewers, on the ground, or into any body of water.

14. TRANSPORT INFORMATION

Classification for ROAD and Rail transport:

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Not regulated for transport

**Transport in bulk
according to Annex I or II
of MARPOL 73/78 and the
IBC or IGC Code**

Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Label

Classification and labeling have been performed according to regulations.

Hazard symbol and Indication of danger

Not classified as hazardous according to regulatory criteria.

16. OTHER INFORMATION

Revision

Identification Number: 101195756 / A305 / Issue Date: 17.09.2014 / Version: 4.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

INGERSOLL RAND urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

Techtrol Gold Synthetic Lubricant

Is the performance of your Centac compressor critical to your compressed air system?

Centac Techtrol Gold offers the latest coolant technology in synthetic and mineral based Fluids. The items listed below represent just a few of the benefits obtained with Centac Techtrol Gold over conventional mineral based fluids.

By introducing the Techtrol Gold fluid, Ingersoll Rand continues to lead the way with new and innovative products for Centac compressors.

Property	Test Method	Performance
Viscosity Index	ASTM D2270	142
Viscosity, cST (SUS)		
@ 0 °F / -17.8 °C	ASTM D445	689 (3190)
@ 100 °F / 37.8 °C	ASTM D445	26.7 (127)
@ 104 °F / 40 °C	ASTM D445	24.6 (118)
@ 210 °F / 98.9 °C	ASTM D445	5.24 (43.4)
@ 212 °F / 100 °C	ASTM D445	5.31 (43.1)
Pour Point, °F (°C)	ASTM D97-98	-40 (-40)
Flash Point, COC °F (°C)	ASTM D92	450 (232)
Flash Point, PMCC °F (°C)	ASTM D93-85	390 (199)
Copper Strip Corrosion, 3hrs. @ 212°F/100°C	ASTM D130	1B
Specific Gravity	ASTM D941	0.98
Ferrous Metal Corrosion (Rust Test)	ASTM D665A	Pass
Foam Tendency (Sequence I, II, III)	ASTM D892	0 (Nil)
Density (Grams per cc @ 25°C)	ASTM D941	0.98
Total Acid Number	ASTM D664	0.10
pH	ASTM D664	8

Ingersoll Rand's Techtrol Gold lubricant is designed to provide the same superior performance over mineral oils that the industry has come to expect from Ingersoll Rand synthetic lubricants.



Features & Benefits

- Extended operating life
- Elimination of deposits and build up caused by fluid breakdown
- Superior film strength protects against metal-to-metal contact
- Environmentally friendly
- Exceeds Centac compressor lubricants specifications



Techtrol Gold Synthetic Lubricant

Properties	TECHTROL GOLD	Most Standard Mineral Fluids
Base Stock	Premium	Medium to Low Grade
Operating Life	24000 hours	8000 hours or less
Deposits and Build up	Eliminates	Possible
Film Strength	Superior	Acceptable
Environmental Considerations	Superior	Acceptable
Water Separation	Superior	Poor to Excellent
Ability to meet CENTAC specifications	Exceeds	Possible

MATERIAL COMPATIBILITY

SEALING MATERIALS:

Techtrol Gold is compatible with almost all elastomers used in seals, o-rings, and gaskets in air compressors:

Compatible

Butyl Rubber
 Ethylene Propylene Rubber (EPR)
 Ethylene Propylene Terpolymer (EPT, EPDM)
 High Nitrile Buna N₁
 Medium Nitrile Buna N₂
 Neoprene
 (Nylon) Polyamide
 Polyethylene
 Polyurethane Foam
 Silicone Rubber
 Teflon₃
 Viton₃
 Loctite 567₅
 Loctite 515₅

Not Compatible

Low Nitrile Buna N₄
 Natural Rubber
 Polyurethane Elastomers
 Permatex Form A Gasket #15
 Permatex Form A Gasket #25

NOTES

- 1 (>36% acrylonitrile)
- 2 (30-36% acrylonitrile)
- 3 (Registered Trademark of E.I. Dupont Corporation)
- 4 (<30% acrylonitrile)
- 5 (Registered Trademark of Lotite Corporation)

PLASTICS:

As with most synthetic lubricants, the compatibility of most plastics with Techtrol Gold depends largely upon use temperatures. All compatibility studies have been performed at elevated temperatures.

Compatible

Celcon₁
 Delrin₂
 Epoxy Resins
 Epoxy/Phenolic Resins Polyvinyl Chloride (PVC)
 Fluorocarbons
 Nylon (Polyamide)
 Polyethylene
 Polypropylene
 Teflon

Not Compatible

Acrylics
 Acrylonitrile Butadiene Styrene (ABS)
 Polycarbonate

- 1 Registered trademark of Celanese Corporation
- 2 Registered trademark of E.I. Dupont Corporation

PAINTS:

The following table lists the compatibility of Techtrol Gold III with **cured** paints:

Compatible

Baked Phenolics
 Epoxy

Not Compatible

Acrylic Polyurethane
 Lacquer Varnish