Centac Fluid
FLUID COMPARISON

DESCRIPTION:

Centac Techtrol Fluids offer 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 Fluids over conventional mineral based coolants. By introducing the Techtrol Family of fluids, Ingersoll-Rand continues to lead the way with new and innovative products for Centac compressors.

Properties	TECHTROL GOLD III	**Most Standard Mineral Coolants**
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

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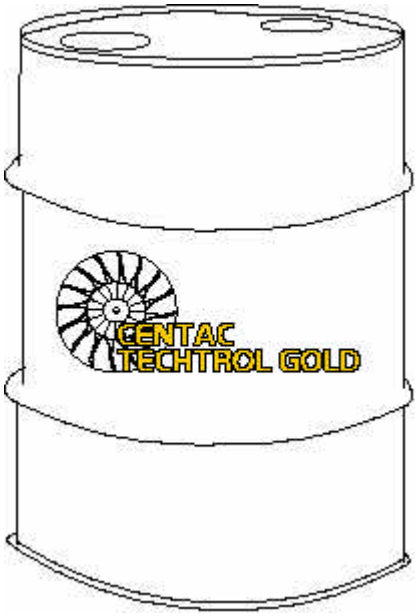
Centac Fluid
TECHTROL GOLD III
Change Out Procedure

DESCRIPTION:

Ingersoll-Rand Centac Techtrol Gold III specifications assure maximum change out intervals and consistent quality.

The following procedure should be followed when changing to Techtrol Gold III from *any* other coolant.



- **Drain the oil sump, oil cooler, and remove old oil filter.**
- **Remove the oil suction screens, clean, and reinstall.**
- **Thoroughly wipe down the oil sump with clean, lint free cloth towels. An excess of the previous coolant can lessen the performance of the synthetic fluid.**
- **Install new oil filter elements III.**
- **Fill unit with Techtrol Gold III.**
- **Circulate the Techtrol Gold for approximately four hours at operating temperature using the prelube pump and oil heater.**
- **Change fluid filter elements.**
- **Place the compressor into operation. Monitor all pressures, temperatures, vibrations, and fluid level.**

For optimum performance, maintenance should be conducted in accordance with the instruction manual for the compressor. Please contact your local Ingersoll-Rand representative or Ingersoll-Rand Customer Service for further information.

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Centac Fluid
TECHTROL GOLD III
TECHNICAL DATA

TYPICAL PROPERTIES OF TECHTROL GOLD III:

Property	Test Method	Performance
ISO Viscosity Classification	ASTM D2422	32
Viscosity Index	ASTM D2270	139
Viscosity, cSt(SUS)		
@ 0°F/-17.8°C	ASTM D445	895 (4195)
@ 100°F/37.8°C	ASTM D445	30 (142)
@ 104°F/40-°C	ASTM D445	28 (133)
@ 210°F/98.9°C	ASTM D445	5.6 (45)
@ 212°F/100°C	ASTM D445	5.5 (44)
Pour Point, °F (°C)	ASTM D97-87	-40 (-40)
Flash Point, COC °F (°C)	ASTM D92	450 (232)
Flash Point, PMCC °F (°C)	ASTM D93-85	390 (199)
Copper Strip Corrosion, 3 hrs. @ 212°F/100°C	ASTM D130	1
Specific Gravity	ASTM D941	0.99
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	0.988
Total Acid Number	ASTM D664	0.10
pH	ASTM D664	8

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Centac Fluid
TECHTROL GOLD III
FLUID ANALYSIS PROGRAM

DESCRIPTION:

The CENTAC Fluid Condition Monitoring System has been developed to assist in optimising compressor performance and reliability. This easy to use kit shall offer added value service to our customers, with the latest available technical expertise.

After removing a suspended quantity of Techtrol Gold III fluid from the machine's lubrication system, the sample undergoes a controlled laboratory analysis, followed by an interpretation of any contaminants or wear material.

Two sampling kits have been assembled for field distribution. The starter kit contains a unique vacuum extraction pump and four pre-addressed sample bottles. To continue with the analysis, a kit with ten pre-addressed sample bottles is also available.

Ingersoll-Rand's recommendation for Techtrol Gold III sampling is at every 4000 operating hours or six months operating interval, under standard operating conditions.

FEATURES AND BENEFITS:

- ✓ **EASY TO USE KITS**
- ✓ **COMPETITIVE PRICE**
- ✓ **ONE DAY LABORATORY RESPONSE TIME**
- ✓ **FREE LABORATORY ANALYSIS AND REPORT**
- ✓ **REPORTS AVAILABLE IN MAJOR EUROPEAN LANGUAGES WITH RECOMMENDATIONS**
- ✓ **INSTRUCTION SHEET IN EIGHT LANGUAGES**
- ✓ **TREND ANALYSIS**

INGERSOLL-RAND®
AIR SOLUTIONS

Centac Fluid
TECHTROL GOLD III
FLUID ANALYSIS PROGRAM

The following CENTAC FLUID CONDITION MONITORING kits are available:

STARTER KIT – CPN 43005297

Content:

- 1 pump
- 1 tube assembly
- 4 sample pre-addressed bottles
- 1 instruction sheet

BACK-UP KIT – CPN 43005339

Content:

- 10 sample pre-addressed bottles
- 1 instruction sheet

SINGLE KIT – CPN 43005255

Content:

- 1 sample pre-addressed bottle
- 1 instruction sheet

A copy of the report will be mailed to the identified destination. Postage costs are not included.

The pump or tube assembly can be ordered individually:

- Pump – CPN 43134568
- Tube (10 meters) – CPN 43134584

INGERSOLL-RAND®
AIR SOLUTIONS

Centac Fluid
TECHTROL GOLD III
FLUID ANALYSIS PROGRAM

SAMPLING PROCEDURE:

To take CENTAC fluid samples the following steps should be followed:

1. Prior to take the first fluid sample for the analysis purpose, the compressor should be running under normal operation conditions for at least 15-30 minutes. If the sample can not be taken while the compressor is running make sure the fluid sample is drawn within 30 minutes of switching off the machine.
2. Assemble the pump, the plastic tube and the sample bottle as in Figure 1.
3. The fluid samples should be taken from the compressor baseplate as in Figure 2. (Make sure the plastic tube is not touching the bottom of the baseplate, the plastic tube should be at least 6-7 cm, above the baseplate bottom).
4. Before the fluid sample for the analysis purpose is taken, fill up the bottle completely once and dispose the fluid on a proper container.
5. Repeat step 4 one more time
6. Fill up the sample bottle and secure the lid tightly. This fluid sample will be sent to the laboratory.
7. Fill up the Analysis request form with all the information.
8. Attach the Analysis Request Form to the sample bottle and send them with the pre-addressed container.

Figure 1

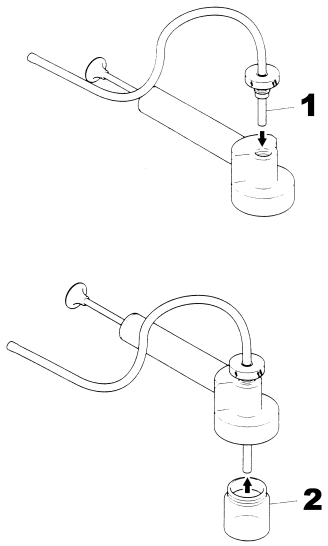
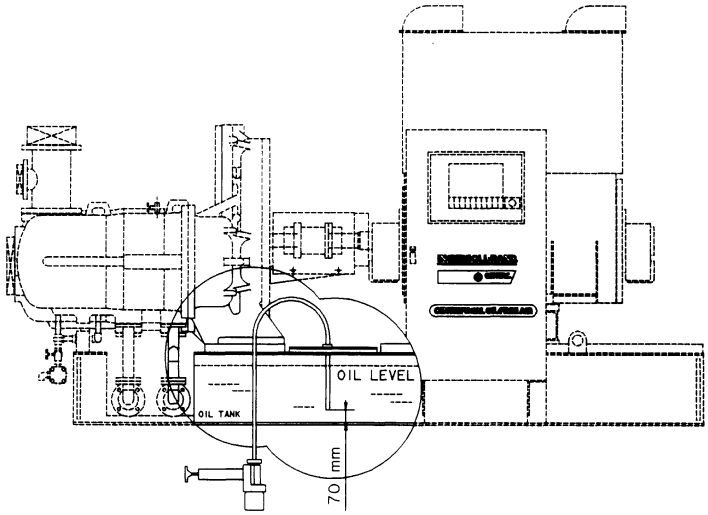


Figure 2



INGERSOLL-RAND®
AIR SOLUTIONS

Centac Fluid
TECHTROL GOLD III
FLUID ANALYSIS PROGRAM

NORMAL OPERATING LEVELS:

The following are explanations of items which are routinely tested when Techtrol Gold III samples are submitted.

Total Acid Number (TAN)

This test gives an indication of the remaining useful life of the fluid. The TAN starts out with a value of 0.1 in new Techtrol Gold III. When the TAN reaches a value of 1.0, we recommend that the fluid be changed. High TAN maybe caused by several factors including high operating temperature, especially bulk fluid temperature in escess of 225 F. This would not normally occur in a Centac compressor. It may occur in an initial charge if Techtrol Gold III were charged into a very contaminated compressor.

Viscosity (VIS)

Viscosity is the measurement of the resistance of a fluid to flow. When it is new, Techtrol Gold III has a viscosity of about 140 SSU at 100 degrees F. The fluid should be changed if the viscosity changes by more than 20%. Normally, this change will not occur for an extended period. With hydrocarbon fluids, the change in viscosity is very dramatic.

pH

The pH is a measure of the acidity of the Techtrol Gold III. The pH of the fluid should be 5.0 or more. A pH less than 5 often indicates contamination of the Techtrol Gold III. When the pH drops below 5, the fluid should be changed due to loss of corrosion protection.

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Centac Fluid
TECHTROL GOLD III
MATERIAL SAFETY DATA SHEET

Effective Date: 8/26/98

Centac Techtrol Gold III is specifically formulated for use in Ingersoll-Rand Centrifugal Compressors.

24-Hour Emergency Phone Number:	1-800-535-5053
	1-708-918-1900
70% polypropylene glycol	CAS 9003-13-8
30% pentaerythritol tetraester	CAS 67762-53-2

1.) COMPOSITION/INFORMATION ON INGREDIENTS: Blend containing a polyoxyalkylene glycol, a pentaeruthritol ester, and other components.

2.) HAZARDOUS IDENTIFICATION:

EMERGENCY OVERVIEW

Light amber liquid. Low Odor.

No significant immediate hazards for emergency response are known.

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data)

Eye: Essentially nonirritating to eyes.

Skin: Short single exposure may cause slight skin irritation. Prolonged or repeated exposure may cause slight skin irritation. Material may cause slight skin irritation. Material may be handled at elevated temperatures; contact with heated material may cause thermal burns. A single prolonged exposure is not likely to result in the material being absorbed through the skin in harmful amounts.

Ingestion: Single dose oral toxicity is considered to be low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury.

Inhalation: At room temperature, vapors are minimal due to physical properties; a single exposure is not likely to be hazardous. If material is heated or mist is produced, concentrations may be attained that are sufficient to cause irritation and other effects.

Sub-Chronic: Observation in animals exposed to excessive amounts of similar polyglycols include slight kidney and liver effects.

3. FIRST AID:

Eyes: Flush eyes with plenty of water.

Skin: Wash off in flowing water or shower.

Ingestion: If swallowed, seek medical attention.

Do not induce vomiting unless directed to do so by medical personnel.

Inhalation: Remove to fresh air if effects occur. Consult a physician.

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Note To Physician: If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgement of the physician in response to reactions of the patient.

4.) FIRE FIGHTING MEASURES:

Flammable Properties:
Flash Point: 453°F, 234°C, 468°F, 242°C
Method Used: PMCC; COC
Autoignition Temperature: Not determined
Flammable Limits:
LFL: Not determined.
UFL: Not determined.

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to: carbon monoxide, carbon dioxide.

Other Flammability Information: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Spills of these organic liquids on hot fibrous insulation may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Extinguishing Media: Water for or fine spray, carbon dioxide, dry chemical, foams. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Do not use direct water stream. Will spread fire.

MEDIA TO BE AVOIDED: Do not use direct water stream.

Fire Fighting Instructions: Keep people away. Isolate fire area and deny unnecessary entry. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Avoid accumulation of water. Product may be carried across water surface spreading fire or contacting an ignition source. Do not use direct water stream. May spread fire.

Protective Equipment for Fire Fighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boot, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

5.) ACCIDENTAL RELEASE MEASURES: (See Section 15 for Regulatory Information)

Protect People: Isolate area. May be a slipping hazard.

Protect the Environment: Contain liquid to prevent contamination of soil, surface water or ground water.

Cleanup: Contain spill if possible.

6.) HANDLING AND STORAGE

Handling: Product on surfaces can cause slippery conditions. Product shipped/handled hot can

cause thermal burns. Product handled hot may require additional ventilation or local exhaust.
Storage: Keep containers tightly closed when not in use. Store in steel, stainless, steel, polypropylene, polyethylene lined containers, Teflon, glass-lined container, aluminum, Plasite 3066 lined containers, Plasite 3070 lined containers, or 316 stainless steel.

7.) EXPOSURE CONTROLS/PERSONAL PROTECTIONS

Engineering Controls: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: Use safety glasses.
Skin Protection: Use gloves impervious to this material. Use gloves with insulation for thermal protection, when needed.
Respiratory Protection: For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator.
Effects on Exposure: Not established.

8.) PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State: Light amber liquid
Odor: Low odor
Vapor Pressure: <0.01 mmHg @ 20C
Vapor Density: Not determined.
Boiling Point: Not applicable.
Solubility in Water/Miscibility: <1 gm/100 gm
Specific Gravity or Density: 0.9850 @ 25/25C

9.) STABILITY AND REACTIVITY

Chemical Stability: Thermally stable at typical use temperatures.
Conditions to Avoid: Active ingredient decomposes at elevated temperatures.
Incompatibility with Other Materials: Avoid contact with oxidizing materials. Avoid contact with strong acids.
Hazardous Decomposition Products: Hazardous decomposition products depend upon temperature, air supply, and the presence of other materials. Hazardous decomposition products may include and are not limited to: carbon dioxide, carbon monoxide.
HAZARDOUS POLYMERIZATIONS: Will not occur.

10.) TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in section 1)
Skin: The LD50 for skin absorption in rabbits for a similar material is greater than 2000mg/kg.
Ingestion: The oral LD50 for rats for a similar materials in greater than 2000mg/kg.

11.) ECOLOGICAL INFORMATION: (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

Environmental Fate:

Degradation & Persistance: Based largely or completely on information for similar material. Biodegradation under aerobic static laboratory conditions is moderate (BOD20 or BOD28 / ThOD between 10 and 40%). Material considered biodegradable based on 83% DOC disappearance in the EPA Aerobic Aquatic Biodegradation test.

ECOTOXICITY: Based largely or completely on information for similar material. Material is moderately toxic to aquatic organisms on an acute basis (LC50 between 1 and 10 mg/L in most sensitive species).

12.) DISPOSAL CONSIDERATIONS:

Disposal: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws, and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. INGERSOLL-RAND COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLNG OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY OT THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition / Information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted recycler, reclaimer, incinerator, or other thermal destruction device.

13.) TRANSPORT INFORMATION

Department of (D.O.T.):

This product is not regulated by D.O.T. when shipped domestically by land.

14.) REGULATORY INFORMATION (Not meant to be all inclusive – selected regulations represented)

15.) ADDITIONAL INFORMATION:

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to

SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA “Hazard Categories” promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization act of 1986 (Sara Title III) and is considered, under applicable definitions, to meet the following categories.

Not to have met any hazard category

NOTICE: The information herein is presented 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 from one location to another; it is the buyers responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS
SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to
SARA Title III Section 313 supplier notification requirements.
SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization act of 1986 (Sara Title III) and is considered, under applicable definitions, to meet the following categories.
Not to have met any hazard category
TOXIC SUBSTANCES CONTROL ACT (TSCA):
All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.
STATE RIGHT-TO-KNOW: This product is not known to contain any substances subject to the disclosure requirements of:
New Jersey
Pennsylvania

OSHA HAZARD COMMUNICATION STANDARD:
This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

16.) OTHER INFORMATION

REVISION INDICATOR: Revised Section 7, added "steel" to storage.

Note: This information is furnished without warranty, representation, inducement or license of any kind, except that it is accurate to the best of Ingersoll-Rand's knowledge or obtained from sources believed by Ingersoll-Rand to be accurate, and Ingersoll-Rand does not assume any legal responsibility for use or reliance upon same. Customers are encouraged to conduct their own tests. Before using any product, READ ITS LABEL.

INGERSOLL-RAND®
AIR SOLUTIONS

Centac Fluid
TECHTROL GOLD III
FLUID/COOLANT GLOSSARY

FLUID/COOLANT GLOSSARY

Crosslinking - in general, *crosslinking* (polymerization) occurs during breakdown of certain fluids/coolants (example: diester and hydrocarbon coolants). The result is typically a dramatic increase in viscosity and the formation of sludge and deposits.

Diester Lubricant - fluids/coolants derived from compounds such as phthalic acid and dibasic acids. Hydrolysis (reaction with water) of *diester fluids/coolants* can convert the fluid/coolant back to an acid form.

Flash Point - a laboratory test method (ASTM D-92) which involves heating the fluid/coolants and passing a small test flame across the sample cup at specified temperature intervals. The lowest temperature where the flame causes the vapors above the surface of the liquid to ignite is known as the *flash point*.

Foam Tendency - (ASTM D-892) Foaming of fluids/coolants during operation can lead to operational problems including inadequate bearing cooling. Properly formulated fluids/coolant will exhibit no tendency to produce a measurable level of foam in this test, which is performed by passing air into the heated cooling through a porous stone, dispersing thousands of tiny air bubbles throughout the test fluid. With Techtrol Gold, these small air bubbles immediately disperse upon reaching the surface, producing no build-up of the harmful foam layer seen with some fluids/coolant.

Hydrolytic Stability - in the presence of water, certain fluids/coolants, such as diester based fluids/coolants, can undergo a reaction known as hydrolysis. Hydrolysis can change the fluid/coolant into an acid. The ability of a fluid/coolant to resist permanent changes due to water is known as *hydrolytic stability*.

Oxidation - is the most prevalent form of fluid/lubricant degradation. Typically, the oxidation mechanism involves free-radical reactions. When heat and metals are present, free-radical formation is elevated. In hydrocarbon and diester fluids/coolants, free-radicals can react with oxygen to form viscous (thick) materials, such as sludge, deposits, and other compounds which can accelerate rust and corrosion.

Oxidation Inhibitors - typically function by inhibiting the formation of free-radicals, destroying the compounds formed by free-radical reactions, deactivating metals, or by a combination of the mechanisms.

Petroleum Coolants - fluids/coolants which are derived from crude oil.

Polyglycol Coolants - typically long-chain polymeric fluids/coolants derived from oxides.

Pour Point - the *pour point* of a fluid/coolant generally refers to that temperature at which the fluid/coolant will no longer flow.

INGERSOLL-RAND®
AIR SOLUTIONS

Centac Fluid
TECHTROL GOLD III
HEALTH & SAFETY

HEALTH AND SAFETY

Based on available toxicological information, it is believed that this product will have little or no adverse effects on health when properly handled or used. No special precautions are necessary beyond attention to good personal hygiene including avoiding prolonged and repeated skin contact.

None of the ingredients in Techtrol Gold III have been listed as hazardous by IARC, NTP or OSHA.

A Material Safety Data Sheet is available from the Mayfield, Kentucky office of Ingersoll-Rand Company, Air Compressor Group.

Ingersoll-Rand Company
Centrifugal Compressor Division
Highway 45 South
Mayfield, KY 42066
USA
(270) 247-8640
Fax: (270) 247-9851

INGERSOLL-RAND®
AIR SOLUTIONS

Centac Fluid
TECHTROL GOLD III
MATERIAL COMPATIBILITY

SEALING MATERIALS:

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

Compatible	Not Compatible
Butyl Rubber	Low Nitrile Buna N[4]
Ethylene Propylene Rubber (EPR)	Natural Rubber
Ethylene Propylene Terpolymer (EPT, EPDM)	Polyurethane Elastomers
High Nitrile Buna N[1]	Permatex ® Form A Gasket #1[5]
Medium Nitrile Buna N[2]	Permatex ® Form A Gasket #2[5]
Neoprene	
(Nylon) Polyamide	
Polyethylene	
Polyurethane Foam	
Silicone Rubber	
Teflon[3]	
Viton[3]	
Logtite® 567 [5]	
Logtite® 515 [5]	

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

PLASTICS:

As with most synthetic coolants, the compatibility of most plastics with Techtrol Gold **III** depends largely upon use temperatures. All compatibility studies have been performed at elevated temperatures. However, the ability of many plastics to withstand repeated pressure cycles is usually less than satisfactory. For this reason, Ingersoll-Rand does not recommend the use of plastic pipe for air discharge or distribution, regardless of the coolant basestock being used.

Compatible	Not Compatible
Celcon[1]	Acrylics
Delrin[2]	Acrylonitrile Butadiene Styrene (ABS)
Epoxy Resins	Polycarbonate
Epoxy/Phenolic Resins	Polyvinyl Chloride (PVC)
Flurocarbons	
Nylon (Polyamide)	
Polyethylene	
Polypropylene	
Teflon	

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	Not Compatible	
Baked Phenolics	Acrylic	Polyurethane
Epoxy	Lacquer	Varnish
Oil Resistant Alkyd	Latex	

INGERSOLL-RAND®
AIR SOLUTIONS

Centac Fluid
TECHTROL GOLD III
FLUID/COOLANT GLOSSARY

FLUID/COOLANT GLOSSARY (Continued)

Pyrolysis - chemical change caused by heat. The term is commonly used in discussions involving the breakdown of fluids/coolant, due to elevated temperatures to form deposits and residue.

Thermal Stability - permanent changes such as deterioration can occur in fluids/coolant due to temperature stresses. The ability of a given fluid/coolant to resist temperature related permanent changes known as *thermal stability*.

Specific Gravity - The ratio of the density of a fluid/coolant to the density of water. This indicates whether the fluid/coolant will sink or float. If the ratio is less than 1.0, it will eventually float.

Total Acid Number - upon deterioration fluids/coolant form by-products which can be measured through a titration method. The results are reported as the *Total Acid Number*. In general the greater the increase in *total acid number* from its starting point, the greater the deterioration of the fluids/coolant.

Viscosity - the measure of resistance to flow of a fluid.

Viscosity Classifications.- Two systems, SAE and ISO, were developed many years ago to classify petroleum fluids/coolants. The ISO classifications are based on viscosities at 0°F and 210°F. The SAE classifications are based on viscosities at 40°C.

Viscosity Index - indicates the relative rate at which a given fluid will change viscosity with respect to changes in temperature. The viscosities of fluids/coolants that have high *viscosity indexes (VI)* are less sensitive to temperature variations than those fluids/coolant with low VI's.

Volatility - for fluids/lubricants, this term usually indicates the evaporation characteristics of the fluid/lubricant at a given pressure. In general, the lower the flash point of a fluid/coolant, the higher its *volatility* or evaporation rate.

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