

Technical Data Sheet

Chemtools® Pty Ltd | Ph: 1300 738 250 (+61 2 9833 9866) | Unit 2, 14 – 16 Lee Holm Road ST MARYS NSW 2760
Safety Data Sheets, product photos, and other information can be obtained by visiting www.chemtools.com.au



Thermalle™ OXYGUARD Non-Flammable Oxygen Safe Grease with PFPE

PART NUMBER	AVAILABLE SIZE*
CT-TM013-05PT	5ml Syringe
CT-TM013-10PT	10ml Syringe
CT-TM013-50T	50g Tube
CT-TM013-250G	250g Tub

*Available colours and/or sizes may change without notice.

DESCRIPTION

Thermalle™ OXYGUARD Non-Flammable Oxygen Safe Grease with PFPE is a medium viscosity perfluorinated polyether base oil, thickened with PTFE for exceptional thermal stability and chemical resistance. It is a premium formulation offering extreme long-term lubrication, sealing, and anti-wear properties for the most aggressive chemical and gas applications.

OXYGUARD is suitable for high pressure air, nitrous oxide, and oxygen (gas and liquid) systems with no fear of combustion. It is physically and chemically inert, totally resistant to water and all common chemicals, resistant to oxidation and thermal degradation, and compatible with metals, plastics, and elastomers.

COMMON APPLICATIONS

- Bearings, stop cocks, o-rings, and gaskets in wet or dry conditions
- All types of bearing threads in aggressive or corrosive conditions, including temperature extremes
- Lifetime sealed, maintenance-free bearings
- Mechanical parts operating at high vacuum conditions in contact with aggressive chemicals or oxygen
- Components operating under medium load at high speed
- Breathing regulators for scuba diving, personal protective equipment, and medical purposes
- Articulation components subjected to consistent high temperatures
- Multiple food, nuclear, chemical, oxygen, and aerospace industry applications
- Clean room applications

PERFORMANCE PROPERTIES

- Non-flammable
- Leaves no residue at high temperatures
- Chemically inert and safe to use in oxygen and other gas and liquid gas applications
- Excellent lubrication and sealing properties
- Good anti-wear properties to reduce friction and component wear
- Resistant to oxidation and thermal degradation
- Resistant to most chemicals
- Good water resistance
- Compatible with most metals, plastics, and elastomers
- Excellent thermal stability and prolongs lubrication intervals, extending component life
- Excellent chemical stability and safe to use in extremely harsh chemical environments

GENERAL APPLICATION GUIDELINES

Ensure all surfaces and components are dry and free of all contaminants and old grease prior to application.

Apply by brush, spatula or syringe with good coverage and an even distribution.

Application is recommended in thin cross-sectional thicknesses down to 1mm.

See over for recommended lubrication of oxygen equipment.

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LUBRICATING OXYGEN EQUIPMENT

Note: Use the correct lubricant. Always refer to the manufacturer's instructions. Ensure that you are using a lubricant specifically designed and approved for use with oxygen systems. Oxygen safe lubricants are typically free from petroleum-based ingredients and are compatible with the materials commonly used in breathing equipment.

Ensure the equipment is clean and free from debris. Use a mild detergent or recommended cleaning solution to remove any dirt, salt, or other contaminants. Rinse thoroughly and allow the equipment to dry completely before proceeding with lubrication.

Apply sparingly to the recommended areas following manufacturer's guidelines. This may include o-rings, valve seals, and other moving parts. Use your fingers or a clean, lint-free cloth to spread the lubricant evenly across surfaces. Ensure that all the necessary parts are adequately coated but avoid excess buildup. Be cautious not to over-lubricate, as excess lubricant can attract dirt and debris.

After application, wipe away any excess to prevent it from coming into contact with the surrounding. Excess lubricant can attract dirt and potentially compromise the performance of equipment.

REGULAR MAINTENANCE

Lubrication is an essential part of regular equipment maintenance. Follow the manufacturer's recommended maintenance schedule and inspect equipment periodically to ensure that it remains properly lubricated.

TECHNICAL DATA

Appearance	White, smooth
Mass Volume (20°C)	1.98 Kg/dm ³ (ISO 2811)
Base Oil	PFPE (perfluorinated polyether)
Thickener	PTFE
Temperature range	-30°C to +260°C
Drop Point	None (ISO 6299)
Consistency	NLGI 2
Max Rotation Factor	400.000 N x dm
Worked Penetration	265/295 x 0.1mm (ISO 2137)
Corrosion Test EMCOR	0 (DIN 51802)
Anti-Rusting	Pass (ASTM D1743)
Coefficient of Friction	0.08 (ASTM D2266)
Four Ball Weld Load	>620 daN (ASTM D2596)
Water Washout Resistance:	<2%
Oxygen Compatibility:	Compliant with ASTM G175 and CGA G-4.1 Standards
Shelf Life	2 years when stored under recommended conditions

FIRST AID & SAFETY PRECAUTIONS

Always refer to Safety Data Sheet/s before use. Use proper Personal Protection Equipment. Do not get in eyes, on skin, or on clothing. Use with adequate ventilation. Avoid breathing fumes. Keep away from heat, sparks, open flames, and hot surfaces. This product may produce adverse health conditions, ranging from minor skin irritation to serious systemic effects. It should not be used, stored, or transported until the handling precautions and recommendations as stated in the Safety Data Sheet/s for this product have been fully understood by all persons who will work with the material.

STORAGE & TRANSPORT

Refer to Safety Data Sheet/s for recommendations. As a general precaution, keep containers tightly closed, protect from sunlight, and do not expose to temperatures exceeding 50°C. Store in a cool, dry place, away from sources of heat and ignition. Do not return any unused material to its original container. Containers should be secured and stored upright during transit.

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