



456

DESCRIPTION:

Dry Non Toxic Advanced Synthetic Polymer Lubricant. Deposits a dense non toxic, non reactive, high temperature lubricating film. Over 3 times the film strength of hydrocarbons, (Grease or Oil). Operating Temperature Range -80 °C to 280 °C continuous. Available in 200 Gram Net Aerosol Can.

CHARACTERISTICS:

Mainlube 456 Has Outstanding Features.

Non Toxic And Odourless.

Compatible With Rubber And Plastics.

Insoluble In Petroleum, Hydrocarbons Or Oils.

Twice The Density Of Normal Lubricants.

Chemically Non Reactive And Non Volatile.

Non Flammable Has No Flash Point.

Will Not Corrode Or Promote Rust.

Will Not Oxidise.

Compressible.

Outstanding Lubricity.

Water Resistant.

Wide Temperature Range.

Outstanding Release Agent.

Other lubricants often show good performance in some the above areas, however Mainlube 456 is the only lubricant that has all of the above features.

Wide Temperature Range

Mainlube 456 does not react, decompose, burn or form gummy residues or hard deposits. 456 will provide stable high performance lubrication for extended periods of time in the temperature range Of -80 °C to +280 °C.

456 will tolerate intermittent high temperatures of up to 320 °C for short periods how ever volatilisation and some loss of product will be experienced. Decomposition will be accelerated as the temperature increases until 456 decomposes completely to gases with no possibility of residues at 450 °C.

Non Flammable, Has No Flash Point

456 will not burn or explode,

Tests have shown that in oxygen at over 1800 psi. 456 will not ignite at 400 °C. At a 100 psi in oxygen and at 100 °C over 600 hours 456 showed no pressure loss.

Compressible

456 can be compressed 1.75 times, this gives excellent load dampening and shock absorption.

Water resistant

Entrapped water and contaminants readily separate from 456 when machinery is stopped. It's insolubility and density make 456 ideal for submerged applications.

Chemical Resistance and Inertness;

Mainlube 456 is inert and will not react with the following mineral or organic acids and bases, oxidising or reducing agents.

Boiling Sulphuric	Hydrogen Fluoride	Fluorine
Hydrazine	Red Fuming Nitric	Hydrogen Chloride
Chlorine	Aniline	Hydrofluoric Acid
Hydrogen Bromide	Bromine	Ammonia
Hydrochloric Acid	Sulphur Oxides	Oxygen
Molten Caustic	Hydrobromic Acid	Nitrogen Oxides
Iodine	Aqueous Caustic	Phosphoric Acid
Steam	Nitrogen	Carbon Dioxide
Organic Acids	Phenol	Hydrogen
Water		

Chemically Resistant Against Metal Oxides Of;

Aluminium	Cobalt	Iron
Manganese	Nickel	Zinc
Chromium	Copper	Lead
Molybdenum	Tin	Titanium

Density

456 Has twice the density of normal hydrocarbon lubricants. It's 2 x density gives 2 x the dynamic viscosity resulting in a 62% thicker lubricating film that can occur with hydrocarbon lubricants of the same viscosity. This increase in lubricating film gives an equal increase in load carrying capacity when compared with hydrocarbon lubricants.

Biological Properties.

456's Components are biologically inert and cannot be metabolised. 456 Does not support any biological growths and does not biodegrade.

Excellent Adhesion

456 Can only be removed by highly halogenated solvents or sand blasting. 456's Excellent adhesion and inertness make 456 ideal for areas where long term low maintenance lubrication film is required.

Low Solubility

456 Is insoluble in all common solvents. This makes 456 highly suitable as a sealant and lubricant in systems where common solvents like aliphated, aromatic and chlorinated hydrocarbons, gasoline, ketone, alcohol, ether or water are used.

Low Reactivity To Metals

Below 290 °C Mainlube 456 is non reactive to all metals.

Mould And Release Agent.

Mainlube 456 will give outstanding performance as a release agent and is suitable for use in all industries where outstanding release and Non sticking qualities are required.

Seal Compatibility

Mainlube 456 is compatible with most seal materials and engineering plastics. Following are the results of immersion in 456 at differing test temperatures °C

Material	93°C	149°C	202°C
Fluorosilicone	P	S	U
Ethylacrylate	P	S	U
Methyl Silicone	P	S	U
Viton A	P	S	S
Urethane	P	-	-
Hypalon	P	U	-
Hytrel	P	-	-
Butyl 325	P	U	-
Neoprene Wrt	P	U	-
Hycar 100 (Buna N)	P	-	-
Ept (Peroxide Cured)	P	S	U
Nordel Hydrocarbon Rubber	P	S	-
Delrin Acetal	P	-	-
Zytel Nylon	P	-	-
Teflon Fluorocarbon	P	S	S

P Passed, No Reactivity

S Satisfactory, Only Minor Changes

U Unsatisfactory, Major Deterioration,

Important To Note: *The Limiting Factor In The Case Of “ U “ Is That The Elastomer/Plastic Deterioration Was Caused From Excessive Heat From The Test. There Was No Reaction Between 456 And The Elastomer/Plastic*

Applications

Mainlube 456 is suitable for applications like;

Sealed instrument lubrication.

Electricity meters.

Chemical industry seal lubrication.

Anti seize on difficult metals.

High temperature seal lubrication.

Submerged pumps and seals.

Pumps and seals in chlorine manufacture.

Valve and o ring lubrication.

Submerged pumps and seals in chemical reactors.

Where outstanding lubrication is required between any 2 surfaces.

Seal lubricant in high temperature chemically reactive environments.

As a mould release and release agent of unequalled performance in the plastic extrusion and rubber moulding industries.



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Electrical Properties

456 is dielectric and will act as a good insulator at room temperature.

Dielectric Breakdown Voltage ARSM Test D-877 KV/0.1 inch	35 to 41
Specific Resistivity ASTM Test D-257 Ohm/cm	0.6 to 4.0 x 10 power 14
Dielectric Constant ASTM Test D-150 @ 100 to 100,000 Hertz	2.0 - 2.2
Dissipation Factor ASTM test D-150 % @ 100 to 100,000 Hertz	3.0 to 7.0 x 10 power -3

Note: 456's electrical properties can be altered significantly when contaminated by moisture.

Compared Lubrication Properties

4 Ball Wear Test 20 Kg Load/ 100 °C/1200 Rpm/20 Mins

LUBRICANT TYPE	WEAR SCAR MM	COEFFICIENT OF FRICTION	FALEX PIN/V SEIZURE TEST
Mainlube 456	0.28	0.07	2550 kgs (Max Test Rig Load, No Seizer)
Hydrocarbon	0.78	0.063	775 kgs Seizer Load Failed
Chlorofluorocarbon	0.39**	0.078	750 kgs Seizer Load Failed
Silicone	>1.10***	-	500 kgs Seizer Load Failed

** Chlorofluorocarbon caused excessive rusting during this test

*** silicon would not run under this test, showed excessive wear and test seized after 2 minutes.

NLGI Consistency # 00-0

Penetration @ 25 °C 340 to 400 mm

Operating temperature range from - 80 °C to + 280 °C continuous.

Directions:

Shake can thoroughly. Hold can 100-150 mm away, apply evenly. To ensure good adhesion and extend time between re-application, ensure all surfaces are free from dirt, spent oil, grease, moisture, rust, lint etc.

This product is intended for industrial use only

Available in 200 gram can.

UN 1950

Class 2.2

PROPELLANT: Carbon dioxide (CO₂) propellant.

GUARANTEE

If this product should fail due to a defect of manufacture, it will be replaced free of charge upon request.

CAUTION WARNING.:

Contents under pressure. Do not puncture or incinerate container. Keep out of reach of children. Do not store in direct sunlight or where temperature is above 50 °C (120 °F). Use adequate ventilation. Avoid prolonged breathing of vapour. Intentional misuse by deliberately concentrating and inhaling contents could be harmful or fatal.

Do not use 456 around or with tobacco products (cigarettes etc)

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DISTRIBUTED BY:



SB456-4 ADAG