

Leading the way in advanced lubricant technology





SUPERIOR LUBRICANTS FOR SUPERIOR PERFORMANCE

<u>MOLY</u>SLIP

Index

Introduction
Valve, IBOP and Flow Control Lubricants
Wire Rope Lubricants
Open Gear Lubricants
Corrosion Protection Coatings
Tool Joint and Drill Collar Compounds
Application Chart

3 4 6

8

10

12 15

The science of lubrication

Molyslip[®] is an independent, UK-based manufacturer of specialist industrial lubricants, supplying products in the UK and internationally, exporting to over 60 countries around the world.

The oil and gas industry operates in some of the world's harshest environments. With products specially formulated to keep machines and equipment operating in the most adverse conditions, Molyslip® is your tried and tested lubricant brand.

The Molyslip[®] all-encompassing range of superior-performance lubricants ensures continued reliable operation of machinery. Our Oil and Gas product range includes specially developed OCTG drill collar and tool joint compounds, valve lubricants, technically advanced wire rope, jack-up and open gear lubricants, in addition to salt water-resistant corrosion preventatives.

Many of our products have been formulated to meet the environmental needs of the modern operator. Coupled with the industry proven Molyslip® maintenance ranges, we offer a comprehensive lubrication package to the offshore, onshore and marine engineers.

At Molyslip®, science remains at the heart of our success and our purpose-built, state-of-the-art laboratories meet all the requirements for a 21st century lubricant developer, allowing us to produce premium products that repeatedly outperform the competition.

OLYSI I

Our success also lies in our ability to be flexible, offering unrivalled technical and after-sales support. It is our priority for customers to run at peak efficiency – and for over 80 years we have delivered a world-class service and superior-performance products.





Valve, IBOP and Flow **Control Lubricants**

The Molyslip[®] range of high-performance lubricants has been developed specifically to ensure a steady flow and keep your operations running smoothly. The range covers most valve types, IBOPs and flow control equipment operating in extreme environments.

VLS

Biodegradable valve lubricant and seal

Molyslip[®] VLS is an adhesive, salt water, stream and hydrocarbon fluid resistant lubricant formulated for use in oil field valve applications.

Benefits:

- Excellent lubrication and anti-wear properties
- High-load carrying capability
- Long-term corrosion protection
- Provides sealing capability for use in older and worn valve equipment
- Environmentally friendly

PVG-679 and PVG-679 WG

High-performance synthetic valve lubricant

Molyslip® PVG 679 and PVG 679 WG (winter grade) both feature a specially selected base oil coupled with solid lubricants and corrosion inhibitors. The PVG 679 range maintains equipment integrity by providing maximum resistance to chemicals encountered in the energy exploration industry.

Benefits:

- Designed specifically to address the requirements of gate and plug valves operating in the petrochemical industry
- Premium blend of high-performance, fully-synthetic oil
- Formulated to withstand high pressure

BVL

Ball valve lubricant

Molyslip® BVL is a uniquely formulated soft grease specifically developed to ensure the continued efficiency and longevity of spring-loaded ball valves. Benefits:

- Based on viscous synthetic fluid and formulated for use in spring-loaded ball valves
- Carefully selected raw materials ensure Molyslip® BVL is fully compatible with all
- commonly encountered seal materials
- Highly resistant to chemicals encountered in the oil and gas exploration industry











🖉 Environmentally Friendly Product

As part of the Bishopdale Group vision for sustainability and to meet increasing demand for products that comply with environmental requirements, Molyslip® offer an environmentally friendly option for each group in the Oil and Gas Industry lubricant ranges.

Wire Rope Lubricants

Molyslip[®] WRL is a comprehensive range of premium-performance lubricants specially developed with high-load carrying, wear-reduction and corrosion resistance capabilities, designed to protect wire ropes operating in the harshest environments.



Wire rope lubricant

Molyslip® WRL-C5 is a high-load carrying lubricant developed to protect wires and strands from wear and breakage in extreme conditions.

Benefits:

- Excellent corrosion resistance protecting wire ropes in both wet and humid environments
- Highly adhesive, tenacious film extending re-lubrication intervals
- Low-temperature flexibility prevents flaking and cracking

WRL-E40

EU Ecolabel/VGP-compliant lubricant

Molyslip® WRL-E40 has been specifically developed to have high-load carrying and wear-reduction

capabilities whilst being environmentally friendly and compliant with US VGP 2013. For instances where environmental factors are a priority, WRL-E40 ensures that wires and strands are protected from wear and breakage.

Benefits:

- EU Ecolabel certified and fully compliant with US VGP 2013
- Highly adhesive and tenacious 'fling off' resistant film extending re-lubrication intervals
- Excellent corrosion resistance protecting ropes in both wet and humid environments

WRL-S SERIES

Pseudoplastic wire rope lubricants

Molyslip® WRL-S Series combines the high-load carrying capabilities of our WRL range with Pseudoplastic rheology, optimising penetration and wash-off resistance in harsh environments.

Benefits:

- High-load carrying and wear-reduction capabilities that are synonymous within our WRL range, protecting wires and strands from wear
- Superior corrosion resistance protecting ropes operating in wet and humid environments
- Highly adhesive 'low fling' film, which extends re-lubrication intervals
- Excellent low-temperature flexibility preventing flacking and cracking

WRL-S10

■ Molyslip[®] WRL-S10 is a translucent pseudoplastic lubricant that is specially developed to allow easy rope inspection

WRL-S15

Molyslip[®] WRL-S15 is a sprayable grade of WRL-S10 for easy application

WRL-S20

Molyslip[®] WRL-S20 is a graphite-reinforced lubricant to provide enhanced load-carrying properties for high-load applications









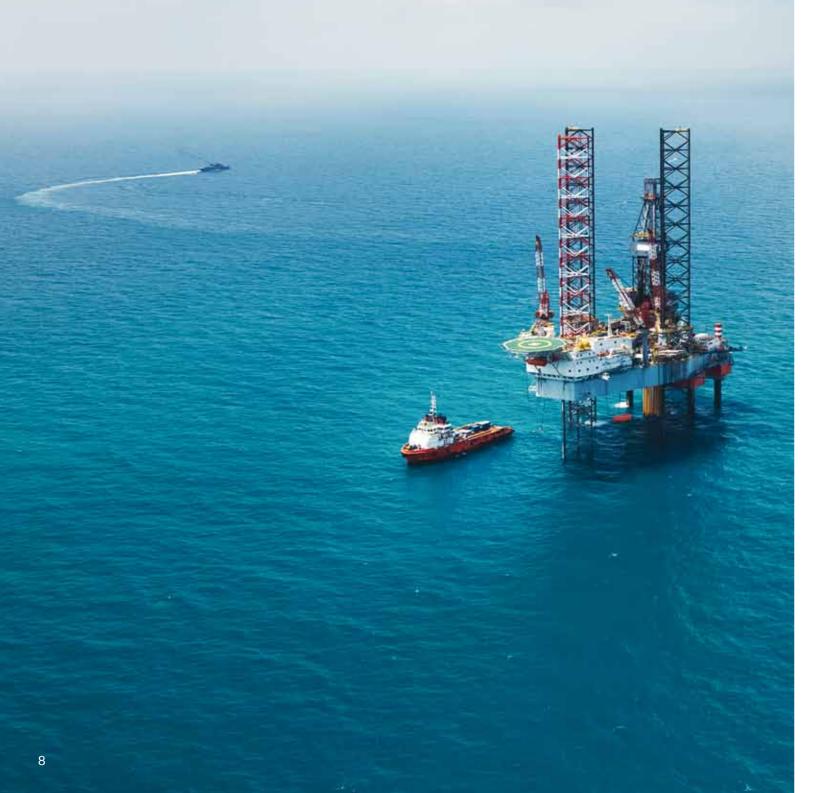


Environmentally Friendly Product

As part of the Bishopdale Group vision for sustainability and to meet increasing demand for products that comply with environmental requirements, Molyslip® offer an environmentally friendly option for each group in the Oil and Gas Industry lubricant ranges.

Open Gear Lubricants

The Molyslip[®] Arvina range of open gear lubricants is specifically formulated to address cold and damp metal applications, providing high-load carrying lubrication for use on the oil and gas industry's open gear and jack-up equipment.



ARVINA OGO and OG2 RANGE

High-load, open gear lubricants

Providing extreme-pressure and anti-wear performance, the Molyslip® Arvina OG range has been formulated to be highly effective against the most corrosive effects of the environment. Benefits:

- Extreme-pressure and anti-wear performance
- Exceptional mechanical stability which extends re-lubrication intervals
- Highly resistant to water wash-off
- Effective protection against corrosion

OGO NLGI O

Molyslip® Arvina OGO NLGI O has been specially designed for spray application

OG2 NLGI 2

Molyslip® Arvina OG2 NLGI 2 features excellent pumpability with a self-repairing film, ensuring a consistent application in open gears

ARVINA-AW

Universal open gear and jack-up lubricant

Molyslip® Arvina-AW is a highly versatile all-weather grease that has been developed for applications in heavy-duty, and extreme weather environments.

Benefits:

- Superior high-load carrying and anti-wear capability
- Adheres to cold and damp metals
- Highly resistant to water wash-off

ARVINA-AW ECO

Environmentally acceptable open gear and jack-up lubricant

Molyslip® Arvina-AW ECO is specially developed to deliver characteristically high-load carrying and anti-wear properties with the added benefit of being environmentally friendly. Arvina-AW ECO is ideal for applications where environmental considerations are a priority.

Benefits:

- Excellent high-load carrying anti-wear capability
- Adheres to cold and damp metals
- Highly resistant to water wash-off
- HOCNF E Classification, Norway 'Yellow' rating













🖉 Environmentally Friendly Product

As part of the Bishopdale Group vision for sustainability and to meet account of the bishopate objects that comply with environmental requirements, Molyslip® offer an environmentally friendly option for each group in the Oil and Gas Industry lubricant ranges.

Corrosion Protection Coatings

Molyslip[®] X range of corrosion preventatives is specially formulated and tested under extreme conditions. These products deposit a protective barrier coating to metallic components during storage, transit and to equipment operating in highly corrosive environments.



X30 SPRAY and FLUID

Heavy-duty, long-term corrosion inhibitor

Molyslip® X30 is a high-density corrosion inhibitor developed to provide long-term outdoor protection for up to 24 months. Benefits:

- Provides up to 24 months outdoor storage protection
- Dewatering capability facilitates application to damp surfaces
- Superior wetting gives a consistent even coating and reliable protection
- Self-healing wax film provides protection from incidental contact

X12 SPRAY and FLUID

Light oil film corrosion inhibitor

Molyslip® X12 features a specially developed dewatering formulation, providing 12-18 months indoor protection to metallic components.

Benefits:

- Provides environmental protection during transport and storage for up to 12 months indoor and short term outdoor
- Dewatering capability facilitates application to damp surfaces
- Superior wetting gives a consistent even coating and reliable protection
- Self-healing film provides protection from incidental contact
- Biodegradable applied film

X10 FLUID

Pressure-test additive and corrosion inhibitor

Molyslip® X10 is a fully-synthetic corrosion inhibiting pressure test concentrate that provides short-term, inter-process protection to equipment in harsh environments.

Benefits:

- Fully-synthetic, environmentally friendly concentrate
- Low foaming in pressure test applications
- Water extendible, cost effective













Environmentally Friendly Product

As part of the Bishopdale Group vision for sustainability and to meet requirements, Molyslip® offer an environmentally friendly option for each group in the Oil and Gas Industry lubricant ranges.

Tool Joint and Drill Collar Compounds

Molyslip[®] OCTG products are designed to provide controlled, consistent joint make-up and lower torgue breakout when applied to threaded tool joints, drill pipe, casing and tubing. Rigorously tested, our OCTG range of compounds ensures long-term operation and optimised efficiency for equipment.

COPASLIP™ OCTG

Tool joint and drill pipe compound

Building upon one of our most universally recognised products, Molyslip® Copaslip[™] OCTG has been specifically formulated to apply its characteristically high performance to the needs of Oil and Gas production. Benefits:

- Formulated to meet the requirements of API RP 5A3/ISO 13678:2010
- Premium-performance compound featuring both metallic and non-metallic solids to prevent cold welding of substrates
- Superior protection of tool joint threads and collar joints
- Even distribution of lubricant ensuring consistent tightening and breakout torques
- Suitable for applications to cold and damp equipment

CU30

Production thread compound

Molyslip® CU30 is a high-performance, lead and zinc free production thread compound developed to replace API modified for casing, tubing and line pipe applications.

Benefits:

- Formulated to meet the requirements of API RP 5A3/ISO 13678:2010
- Reduces friction during the make-up of casing and tubing, preventing galling and wear, whilst ensuring longevity and performance
- Outstanding resistance to water washout

GRAPHSLIP OCTG

Metal-free tool joint and drill collar compound

Molyslip[®] Graphslip OCTG is a premium performance, metal-free, tool joint and drill collar compound based on highly refined low sulphur, low pour point mineral oil thickened with calcium sulphonate complex soap.

Benefits:

- Metal-free, high-graphite content alternative to COPASLIP[™] OCTG
- Excellent lubricating and anti-wear properties to reduce friction during assembly preventing 'pick-up', galling and seizure facilitating easier breakout for routine maintenance
- Effective over a wide temperature range
- GRAPHSLIP OCTG is specifically designed to prevent seizure of threaded connections and 'cold welding' of rotary should/drill collar/tool joint connections on oilfield equipment such as drill strings, casings, production tools and tubing etc
- Formulated to meet the requirements of API RP 5A3/ISO 13678:2010











ECOSLIP OCTG

Metal-free tool joint and drill collar compound

Molyslip® ECOSLIP OCTG is an environmentally friendly, metal-free, tool joint and drill collar compound.

Benefits:

- Biodegradable and compliant with the requirements of HOCNF 'E' classification in UK/NL and 'Yellow' rating in Norway.
- High-performance option for offshore application where environmental considerations are a priority
- Formulated to meet the requirements of API RP 5A3/ISO 13678:2010
- Suitable for application to cold damp equipment

ZN50

Tool joint and drill collar compound



Molyslip® ZN50 provides excellent protection to threads, tool shoulder and collar joints in all operating conditions.

Benefits:

- Formulated with 50% evenly distributed zinc flake
- Compliant with API RP 7G bulletin, facilitating consistent joint make-up
- Adheres to both cold and wet tooling

ZN60

Severe-duty tool joint and drill collar compound

Molyslip® ZN60 is a water-resistant, extreme-pressure assembly and thread compound providing the ultimate protection to threads, tool shoulder and collar joints.

Benefits:

- Formulated with 60% evenly distributed zinc flake
- Extreme pressure performance prevents cold welding
- Compliant with API RP 7G bulletin, facilitating consistent joint make-up
- Adheres to both cold and wet tooling



APPLICATION C HART

THREAD COMPOUNDS									
PRODUCT	Drill Collar Severe	Drill Collar	Tool Joints	Line Pipe, Tubing and Casing	Drill Pipe	Large Diameter Rotary Shoulder	Non API Thread	Friction Factor	
COPASLIP OCTG	٠	•	•	•	•	•		1.0	
CU30				•			•	1.0	
GRAPHSLIP OCTG		•	•	•	•	•		1.0	
ECOSLIP OCTG				•	•		•	0.8	
ZN50		•	•			•		1.0	
ZN60	٠	•	•			•		1.0	

RIG MAINTENANCE

PRODUCT	Jack Up Legs	Gears Winch/Crane	Wire Rope and Cable	Long Term Storage Compound	Short Term Storage Compound	Flow Control (Gate, Plug and Butterfly)	IBOP	Flow Control (Spring- Loaded Ball)
ARVINA-AW	٠							
ARVINA-AW ECO	•							
ARVINA OG0/2	•	•						
WRL-E40			•					
WRL-S Series			•					
WRL-C5			•					
X30				•				
X12					•			
X10					•			
VLS						•	•	
PVG 679						•	•	
BVL								•

Environmentally Friendly Product

As part of the Bishopdale Group vision for sustainability and to meet increasing demand for products that comply with environmental requirements, Molyslip® offer an environmentally friendly option for each group in the Oil and Gas Industry lubricant ranges.



Molyslip[®] is a 21st century lubricant developer, producing premium products that consistently outperform the competition



Call +44 (0)161 804 4700 www.molyslip.co.uk

Molyslip, 4 Huntsman Drive, Northbank Industrial Park, Irlam, Manchester M44 5EG, UK

Molyslip is part of Metalube Ltd

SUPERIOR LUBRICANTS FOR SUPERIOR PERFORMANCE





