

# WRL-C5

**MOLYSLIP**

## Wire rope lubricant

### Description

MOLYSLIP WRL-C5 is a premium performance lubricant specifically designed to lubricate and protect steel wire ropes. Formulated from high quality base oils and incorporating advanced additive systems that minimize friction and wear MOLYSLIP WRL-C5 delivers outstanding corrosion protection and lubrication to wire ropes operating in a range of environments.

Steel wire ropes are complex in construction and are subjected to arduous operating conditions. Movement such as loading and unloading of the rope, bending and flexing over sheaves and pulleys creates high load points where wires and strands cross over each other. This can result in fretting wear and corrosion - reducing the life of the rope. The high load carrying solids contained in WRL-C5 form a low friction barrier between the metal surfaces minimizing frictional contact and wear.

MOLYSLIP WRL-C5 is suitable for use on most wire rope types and constructions operating in a wide variety of conditions and equipment such as cranes, ports, oilfield, construction and mining. It can also be used in applications such as ROV umbilical cables to protect from corrosion.



### Features and benefits

- High load carrying and wear reduction capability protects wires and strands from wear
- Excellent corrosion resistance protects ropes operating in wet conditions
- Highly adhesive, tenacious film extends re-lubrication intervals
- Excellent low temperature flexibility prevents flaking and cracking

### Instructions for use

MOLYSLIP WRL-C5 can be applied manually with a brush or swab, or via a high pressure applicator (for example a Masto type system).

### Packaging

400ml aerosol, 4.5kg and 18kg pail

## Technical data (typical values)

Property	Test method	Result
Appearance	-	Smooth black grease
Worked penetration	IP50	290
NLGI classification	-	2
Drop point	IP132	>300°C
Salt spray	ASTM B-117	>1000 hours
4-ball weld load	IP239	400kg
Operating temperature range	-	-50°C to +130°C

## Storage

Store MOLYSLIP WRL-C5 out of direct sunlight. Storage temperature should be controlled to between 5°C and 35°C.

The product information in this publication is based on knowledge and experience at the time of printing. There are many factors outside our control or knowledge which affect the use and performance of our products, for which reason it is given without responsibility.  
Issue date 07-17

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Product name** Molyslip WRL-C5 Spray

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** Lubricant.

**Uses advised against** No specific uses advised against are identified.

### 1.3. Details of the supplier of the safety data sheet

**Supplier** Molyslip  
4 Huntsman Drive  
Northbank Industrial Park  
Irlam  
Manchester  
M44 5EG  
UK  
+44 (0)161 804 4700  
+44 (0)161 804 4701  
compliance@molyslip.co.uk

### 1.4. Emergency telephone number

**Emergency telephone** +44 (0)161 804 4700

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification (EC 1272/2008)

**Physical hazards** Aerosol 1 - H222, H229

**Health hazards** Asp. Tox. 1 - H304

**Environmental hazards** Not Classified

### 2.2. Label elements

#### Pictogram



**Signal word** Danger

**Hazard statements** H222 Extremely flammable aerosol.  
H229 Pressurised container: may burst if heated.

**Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P211 Do not spray on an open flame or other ignition source.

P251 Do not pierce or burn, even after use.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

**Contains** Distillates (petroleum), hydrotreated light

### 2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Distillates (petroleum), hydrotreated light			30-60%
CAS number: 64742-47-8	EC number: 265-149-8	REACH registration number: 01-2119484819-18-0001	
Classification Asp. Tox. 1 - H304			
Petroleum gases, liquefied			30-60%
CAS number: 68476-85-7	EC number: 270-704-2	This product is exempted from pre-registration and registration in accordance with Annex V	
Classification Flam. Gas 1 - H220 Press. Gas (Liq.) - H280			
Limestone			1-5%
CAS number: 1317-65-3	EC number: 215-279-6		
Classification Not Classified			
Graphite			1-5%
CAS number: 7782-42-5	EC number: 231-955-3	REACH registration number: 01-2119486977-12-XXXX	
Classification Not Classified			

diphenylamine			<1%
CAS number: 122-39-4	EC number: 204-539-4	REACH registration number: 01-2119488966-13-XXXX	
M factor (Acute) = 1	M factor (Chronic) = 1		
<b>Classification</b>			
Acute Tox. 3 - H301			
Acute Tox. 3 - H311			
Acute Tox. 3 - H331			
STOT RE 2 - H373			
Aquatic Acute 1 - H400			
Aquatic Chronic 1 - H410			

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

#### SECTION 4: First aid measures

##### 4.1. Description of first aid measures

<b>General information</b>	Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.
<b>Inhalation</b>	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel.
<b>Skin contact</b>	Rinse with water.
<b>Eye contact</b>	Remove any contact lenses and open eyelids wide apart. Rinse with water. Get medical attention if any discomfort continues.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue.

##### 4.2. Most important symptoms and effects, both acute and delayed

<b>General information</b>	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	Spray/mists may cause respiratory tract irritation.
<b>Ingestion</b>	Due to the physical nature of this product, it is unlikely that ingestion will occur. Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.
<b>Skin contact</b>	Repeated exposure may cause skin dryness or cracking.
<b>Eye contact</b>	May be slightly irritating to eyes. May cause discomfort.

##### 4.3. Indication of any immediate medical attention and special treatment needed

<b>Notes for the doctor</b>	Treat symptomatically.
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#### SECTION 5: Firefighting measures

##### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	The product is flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
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**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

## **5.2. Special hazards arising from the substance or mixture**

**Specific hazards** Containers can burst violently or explode when heated, due to excessive pressure build-up. Bursting aerosol containers may be propelled from a fire at high speed. If aerosol cans are ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. Vapours may form explosive mixtures with air.

**Hazardous combustion products** Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

## **5.3. Advice for firefighters**

**Protective actions during firefighting** Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

## **SECTION 6: Accidental release measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Evacuate area. Risk of explosion. Provide adequate ventilation. No smoking, sparks, flames or other sources of ignition near spillage. Promptly remove any clothing that becomes contaminated.

### **6.2. Environmental precautions**

**Environmental precautions** Avoid discharge into drains or watercourses or onto the ground.

### **6.3. Methods and material for containment and cleaning up**

**Methods for cleaning up** Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage. Under normal conditions of handling and storage, spillages from aerosol containers are unlikely. If aerosol cans are ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. Small Spillages: Wipe up with an absorbent cloth and dispose of waste safely. Large Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.

### **6.4. Reference to other sections**

**Reference to other sections** For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

## **SECTION 7: Handling and storage**

### **7.1. Precautions for safe handling**

**Usage precautions**

Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Avoid exposing aerosol containers to high temperatures or direct sunlight. The product is flammable. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Spray will evaporate and cool rapidly and may cause frostbite or cold burns if in contact with skin. Avoid contact with eyes. Avoid inhalation of vapours and spray/mists.

**Advice on general occupational hygiene**

Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse.

**7.2. Conditions for safe storage, including any incompatibilities****Storage precautions**

Store away from incompatible materials (see Section 10). Store locked up. Keep away from oxidising materials, heat and flames. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Protect from sunlight. Do not store near heat sources or expose to high temperatures. Do not expose to temperatures exceeding 50°C/122°F.

**Storage class**

Chemical storage.

**7.3. Specific end use(s)****Specific end use(s)**

The identified uses for this product are detailed in Section 1.2.

**SECTION 8: Exposure Controls/personal protection****8.1. Control parameters****Occupational exposure limits****Distillates (petroleum), hydrotreated light**

Long-term exposure limit (8-hour TWA): WEL 1200 mg/m<sup>3</sup>

**Petroleum gases, liquefied**

Long-term exposure limit (8-hour TWA): WEL 1750 mg/m<sup>3</sup> respirable dust

Short-term exposure limit (15-minute): WEL 2180 mg/m<sup>3</sup> respirable dust

**Limestone**

Long-term exposure limit (8-hour TWA): WEL 10 mg/m<sup>3</sup> inhalable dust

Long-term exposure limit (8-hour TWA): WEL 4 mg/m<sup>3</sup> respirable dust

**Graphite**

Long-term exposure limit (8-hour TWA): WEL 5 mg/m<sup>3</sup> respirable dust

Long-term exposure limit (8-hour TWA): WEL 10 mg/m<sup>3</sup> inhalable dust

**diphenylamine**

Long-term exposure limit (8-hour TWA): WEL 10 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 20 mg/m<sup>3</sup>

WEL = Workplace Exposure Limit

**Distillates (petroleum), hydrotreated heavy naphthenic <3% DMSO (CAS: 64742-52-5)****DNEL**

Workers - Inhalation; Long term local effects: 5.4 mg/m<sup>3</sup>

**Graphite (CAS: 7782-42-5)****DNEL**

Workers - Inhalation; Long term local effects: 1.2 mg/m<sup>3</sup>

**propylene carbonate (CAS: 108-32-7)**

<b>DNEL</b>	Industry - Inhalation; Long term systemic effects: 50 mg/kg/day Industry - Inhalation; Long term local effects: 20 mg/m <sup>3</sup> Industry - Dermal; Long term systemic effects: 50 mg/kg/day
<b>PNEC</b>	- Fresh water; 0.9 mg/l - Marine water; 0.09 mg/l - STP; 7.4E3 mg/l - Soil; 0.81 mg/kg

**8.2. Exposure controls****Protective equipment****Appropriate engineering controls**

Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.

**Eye/face protection**

Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

**Hand protection**

No specific hand protection recommended.

**Other skin and body protection**

Wear appropriate clothing to prevent repeated or prolonged skin contact.

**Hygiene measures**

Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

**Respiratory protection**

Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

**Environmental exposure controls**

Keep container tightly sealed when not in use.

**SECTION 9: Physical and Chemical Properties****9.1. Information on basic physical and chemical properties**

<b>Appearance</b>	Aerosol.
<b>Odour</b>	Characteristic.
<b>Flash point</b>	< -60°C Cleveland open cup.
<b>Solubility(ies)</b>	Immiscible with water.

**9.2. Other information****SECTION 10: Stability and reactivity****10.1. Reactivity**

**Reactivity** See the other subsections of this section for further details.

**10.2. Chemical stability**



**Stability** Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** The following materials may react strongly with the product: Oxidising agents.

### 10.4. Conditions to avoid

**Conditions to avoid** Avoid exposing aerosol containers to high temperatures or direct sunlight. Pressurised container: may burst if heated

### 10.5. Incompatible materials

**Materials to avoid** No specific material or group of materials is likely to react with the product to produce a hazardous situation.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

## **SECTION 11: Toxicological information**

### 11.1. Information on toxicological effects

#### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** Based on available data the classification criteria are not met.

#### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** Based on available data the classification criteria are not met.

#### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** Based on available data the classification criteria are not met.

#### Skin corrosion/irritation

**Animal data** Based on available data the classification criteria are not met.

#### Serious eye damage/irritation

**Serious eye damage/irritation** Based on available data the classification criteria are not met.

#### Respiratory sensitisation

**Respiratory sensitisation** Based on available data the classification criteria are not met.

#### Skin sensitisation

**Skin sensitisation** Based on available data the classification criteria are not met.

#### Germ cell mutagenicity

**Genotoxicity - in vitro** Based on available data the classification criteria are not met.

#### Carcinogenicity

**Carcinogenicity** Based on available data the classification criteria are not met.

**IARC carcinogenicity** None of the ingredients are listed or exempt.

#### Reproductive toxicity

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met.

**Reproductive toxicity - development** Based on available data the classification criteria are not met.

### Specific target organ toxicity - single exposure

**STOT - single exposure** Not classified as a specific target organ toxicant after a single exposure.

## **Specific target organ toxicity - repeated exposure**

**STOT - repeated exposure** Not classified as a specific target organ toxicant after repeated exposure.

## **Aspiration hazard**

**Aspiration hazard** Asp. Tox. 1 - H304 May be fatal if swallowed and enters airways. Pneumonia may be the result if vomited material containing solvents reaches the lungs.

**General information** The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation** Spray/mists may cause respiratory tract irritation.

**Ingestion** Due to the physical nature of this product, it is unlikely that ingestion will occur. Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

**Skin contact** Repeated exposure may cause skin dryness or cracking.

**Eye contact** May be slightly irritating to eyes. May cause discomfort.

**Route of exposure** Ingestion Inhalation Skin and/or eye contact

**Target organs** No specific target organs known.

## **SECTION 12: Ecological Information**

**Ecotoxicity** Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

### **12.1. Toxicity**

**Toxicity** Based on available data the classification criteria are not met.

### **12.2. Persistence and degradability**

**Persistence and degradability** The degradability of the product is not known.

### **12.3. Bioaccumulative potential**

**Bioaccumulative potential** No data available on bioaccumulation.

### **12.4. Mobility in soil**

**Mobility** The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.

### **12.5. Results of PBT and vPvB assessment**

### **12.6. Other adverse effects**

**Other adverse effects** None known.

## **SECTION 13: Disposal considerations**

### **13.1. Waste treatment methods**

**General information** The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

## Disposal methods

Do not empty into drains. Empty containers must not be punctured or incinerated because of the risk of an explosion. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents.

## SECTION 14: Transport information

### General

For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

#### 14.1. UN number

UN No. (ADR/RID)	1950
UN No. (IMDG)	1950
UN No. (ICAO)	1950
UN No. (ADN)	1950

#### 14.2. UN proper shipping name

Proper shipping name (ADR/RID) AEROSOLS

Proper shipping name (IMDG) AEROSOLS

Proper shipping name (ICAO) AEROSOLS

Proper shipping name (ADN) AEROSOLS

#### 14.3. Transport hazard class(es)

ADR/RID class	2.1
ADR/RID classification code	5F
ADR/RID label	2.1
IMDG class	2.1
ICAO class/division	2.1
ADN class	2.1

#### Transport labels



#### 14.4. Packing group

ADR/RID packing group	None
IMDG packing group	None
ADN packing group	None
ICAO packing group	None

#### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

#### 14.6. Special precautions for user

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EmS F-D, S-U

ADR transport category 2

Tunnel restriction code (D)

#### **14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code**

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

### **SECTION 15: Regulatory information**

#### **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

<b>National regulations</b>	<p>Health and Safety at Work etc. Act 1974 (as amended).</p> <p>The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].</p> <p>EH40/2005 Workplace exposure limits.</p> <p>The Aerosol Dispensers Regulations 2009 (SI 2009 No. 2824).</p>
<b>EU legislation</b>	<p>Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).</p> <p>Commission Regulation (EU) No 2015/830 of 28 May 2015.</p> <p>Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).</p> <p>Council Directive of 20 May 1975 on the approximation of the laws of the Member States relating to aerosol dispensers (75/324/EEC) (as amended).</p>

#### **15.2. Chemical safety assessment**

No chemical safety assessment has been carried out.

#### **Inventories**

##### **EU - EINECS/ELINCS**

None of the ingredients are listed or exempt.

### **SECTION 16: Other information**

<b>Abbreviations and acronyms used in the safety data sheet</b>	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
	ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
	RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
	IATA: International Air Transport Association.
	ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
	IMDG: International Maritime Dangerous Goods.
	CAS: Chemical Abstracts Service.
	ATE: Acute Toxicity Estimate.
	LC <sub>50</sub> : Lethal Concentration to 50 % of a test population.
	LD <sub>50</sub> : Lethal Dose to 50% of a test population (Median Lethal Dose).
	EC <sub>50</sub> : 50% of maximal Effective Concentration.
	PBT: Persistent, Bioaccumulative and Toxic substance.
	vPvB: Very Persistent and Very Bioaccumulative.
<b>Classification abbreviations and acronyms</b>	Aerosol = Aerosol
<b>Classification procedures according to Regulation (EC) 1272/2008</b>	Asp. Tox. 1 - H304: : Calculation method. Aerosol 1 - H222, H229: : Expert judgement.
<b>Training advice</b>	Only trained personnel should use this material.
<b>Revision date</b>	21/11/2017
<b>Revision</b>	4
<b>Supersedes date</b>	25/09/2017
<b>SDS number</b>	5164
<b>Hazard statements in full</b>	H220 Extremely flammable gas.
	H222 Extremely flammable aerosol.
	H229 Pressurised container: may burst if heated.
	H280 Contains gas under pressure; may explode if heated.
	H301 Toxic if swallowed.
	H304 May be fatal if swallowed and enters airways.
	H311 Toxic in contact with skin.
	H331 Toxic if inhaled.
	H373 May cause damage to organs through prolonged or repeated exposure.
	H400 Very toxic to aquatic life.
	H410 Very toxic to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.