

Material Safety Data Sheet

According to 1907/2006/EC, Article 31



Printing Date: 09 June 2020

Revision: 29 September 2015

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1 Identification of the substance/preparation and of the company/undertaking

Trade name: **linecube FS2631 Soluble Cutting Oils**

Relevant identified uses of the substance or mixture and uses advised against:

- Use of the substance/mixture: Water extendible metalworking coolant/lubricant concentrate which is normally to be diluted in water prior to use (typical dilutions 3-10% in water).
- Use advised against: Do not use in any other application

Supplier:

Online Lubricants Ltd.
Unit 20, The IO Centre, Barking, London IG11 0DR
UK Tel. +44 (0) 208 507 0123

In case of emergency: +44 (0) 208 507 0123

2 Hazards identification

This product is classed according to EC Dangerous Substances/Preparations Directives - Xi Irritating to eyes.

Health & Safety

The undiluted product is strongly irritating to the eye with a potential to cause corneal injury if treatment is not prompt. The undiluted product may cause irritation to the skin, which could become more intense if not promptly removed or if contact is frequent or prolonged. Prolonged or repeated contact with over strength emulsions may lead to de-fatting of the skin and/or skin irritation. Refer to Section 11 – Toxicological Information.

Environmental

The product contains mineral oil, which will not readily biodegrade in anaerobic conditions and therefore can be environmentally persistent. For further information refer to Section 12 – Ecological Information.

Special Hazards during and after use

During use, metalworking fluids may become contaminated with metal particles, metal salts, other lubricants and microbiological contaminants. These may increase the irritancy of the emulsions, and in some cases may be capable of inducing other additional

3 Composition / Information on ingredients

Highly refined mineral oil, emulsifiers and corrosion inhibitors with non-phenolic coupling agents and performance additives.

Components include:	Classification	Conc/%wt	EEC No	CAS No.	Exposure limits
Highly refined mineral oil	N/A	25 – 65	265-155-0	64742-52-5	TWA Oil mist: 5mg/m ³
Boric Acid/ monoethanolamine condensation products	Xi: R36	5 – 20			Monoethanolamine TWA=3ppm (7.6mg/m ³)
N,N'- Methylene bismorpholine	Xn: R22,36,38	<5		5625-90-1	

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4 First-aid measures

	Symptoms	Treatment
Eye contact	Irritating and stinging-potentially severe with the undiluted material	Immediately wash eye thoroughly with plenty of clean water for at least 15 minutes, ensuring eyelids are held open. For contact with undiluted fluid, obtain prompt medical attention. It is advisable to obtain medical advice before removing contact lenses. For contact with diluted fluid, obtain medical attention if irritation or redness persists, or as an additional precaution
Skin contact	Irritation, skin drying /defatting	Although not classified as a skin irritant undiluted product should be washed thoroughly from the skin with soap and water without delay. Remove contaminated clothing and wash/laundry before re-use. If irritation persists, obtain medical advice. If the use of metal working emulsions gives rise to irritations or skin rashes, possible contamination and/or usage conditions may need to be investigated.
Inhalation	Irritation of respiratory tract from exposure to fumes and mists	For effects produced by over-exposure, move to fresh air. If effects persist, obtain medical advice.
Ingestion	Irritation of mouth and throat, nausea, drowsiness	Do not induce vomiting. Wash out mouth with water and obtain medical attention. Milk or water to drink may be beneficial (do not give anything to drink to an unconscious person). Treat symptomatically. If the product is aspirated into the lungs (e.g. during vomiting), send to hospital immediately. Show a copy of this data sheet to the doctor.

Notes for Doctors

Treat symptomatically – advisable not to induce vomiting due to the risk of aspiration and it is not usually necessary unless a large amount has been ingested or it has been contaminated with another product. Gastric lavage under supervised medical conditions can be carried out if necessary.

5 Fire Fighting Measures

Flammability

Low fire risk due to high flash point and low volatility. High energy sources (such as open flames) may induce combustion of the undiluted product. The diluted emulsions do not support combustion due to the high water content.

Extinguishing media

Small Fires: Foam, dry powder, carbon dioxide, sand or earth.
Large Fires: Foam or water fog - DO NOT USE WATER JETS

Products of combustion

Combustion can produce a variety of compounds including: oxides of carbon and nitrogen, water vapour, unburnt hydrocarbons, partially oxidised organic compounds and other unidentified organic and inorganic compounds, some of which may be toxic.

Special Fire Hazards

Large surface areas exposed to air/oxygen (e.g. oil-soaked rags, paper or absorbed spillages) may be easily ignited and these should be cleared up at once.

Special Fire-Fighting Procedures

Fire-fighters should wear self-contained breathing apparatus. Do not spray water directly into water containers due to boil-over danger.

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6 Accidental Release Measures

Contain spillage and prevent entry into drains and water courses. Spillages can be slippery so affected areas should be thoroughly cleaned afterwards.

Safety Precautions

Wear suitably protective clothing, particularly eye protection. Refer to section 8 for further details.

Small spills Soak in absorbent granules, sand or earth and collect solids into a suitable, marked container for proper disposal. Thoroughly clean spillage area as spillages can be slippery.

Large spills Bund the area using absorbent granules, booms, sand or earth. Temporarily seal exposed drainage outlets. Reclaim liquid directly or soak in absorbent medium and transfer to a suitable, marked container for proper disposal.

Disposal of spillage Disposal must be in accordance with local regulations and (in the UK) the Environmental Protection Act 1990. Refer to section 13 for further details.

7 Handling and Storage

Handling Avoid contact with eyes - wear chemical goggles when handling undiluted product. Avoid skin contact with the undiluted product. The use of appropriate resistant gloves and barrier cream and/or after-work creams may be beneficial.

Storage Store in dry conditions protected from frost and elevated temperatures. Store in the original containers or in either mild steel or high-density polyethylene containers, which are closable and clearly labelled. Certain requirements of the Control of Pollution (Oil Storage) Regulations 2001 may apply in England.

Additional Guidance

Metal working fluids (MWFs) can create environmental, health and performance problems in use if not managed correctly – factors to be controlled include dilution, level of contamination, pH, fumes/misting, etc. The supplier can provide specific advice on dilution rates, and additional detailed advice on the control and maintenance aspects of MWFs. Other Industry/Government Agency guidance is also available – see Section 16.

8 Exposure controls/personal protection

Exposure limits

An occupational exposure limit for metalworking fluids (MWFs) has not been established. In the UK, the HSE recommends that exposure to water mix metalworking fluid mists should be controlled to less than 1mg/m³ (8hr TWA).

The product contains significant proportions of the following components which have published Occupational Exposure Limits: **Mineral Oil 35 - 60%**

Limits for mists or aerosols

EC Limit None Germany MAK 5mg/m³

UK 5mg/m³ TWA; 10mg/m³ STEL ACGIH/Italy 5mg/m³ 8 hr TWA; 10mg/m³ 15 minutes

Belgium VLEP 5mg/m³ 8 hr; 10mg/m³ 15 minutes Spain VLA 5mg/m³ ED; 10mg/m³ EC

Denmark 1mg/m³ 8 hr Sweden 1mg/m³ NGV

Finland 5mg/m³ 8 hr Australia 5mg/m³ TWA

France VLM/VLE Africa 5mg/m³ TWA; 10mg/m³ STEL

Notes

Oil and MWF mist determination. Primary Method: gravimetric collection on a 5µ low ash filter. Fluorometric and IR techniques are also available for mineral oil mists. Secondary Method: Detector tubes are available for mineral oil mist. Refer also to HSE methods MDHS84 and MDHS95.

General Controls: General ventilation, safe working procedures and training should form the basis for exposure controls. Local forced extraction may be needed if mists, fumes or vapours are generated. Wash hands after use, before eating, drinking, or smoking and before and after using the toilet. Contaminated clothing should be removed and laundered before re-use.

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Personal Protective Equipment

	Recommendations	Type(s) to consider	EN Standard(s)
Eyes/Face	Eye protection is recommended when handling the undiluted product or if there is a risk of splashing with the diluted product.	Chemical eye shield, spectacles or goggles.	166
Hands/Skin	Impervious gloves are recommended when handling the undiluted product. Prolonged or repeated contact with diluted metalworking fluid emulsions is often unavoidable- the use of appropriate skin protective and reconditioning creams may be beneficial and gloves should be considered whenever their use is practical and safe. Gloves should not have knitted wrists and/or open backs.	PVC, nitrile or neoprene having a breakthrough time >360 minutes against oil and hydrocarbons, or which are suitable for use with water miscible metalworking fluids. Latex and butyl rubber are unsuitable. Consider mechanical/tear resistance if handling items which could damage the glove.	374-3
Respiratory Protection	Respiratory protection is not normally required. However suitable respiratory equipment may need to be provided for those operations which generate vapour, mist or fumes and where local exposure cannot be adequately controlled by local exhaust ventilation or other means.	Respiratory half-masks: Types FFP2 or FFP3 giving protection against water and oil based mists and particulates.	149 or 405 (valved)

Other: EN345 safety boots (or EN347 working shoes) resistant to oils and hydrocarbons. Work overalls to protect against skin contact.

Environmental Controls: Suitable system design or appropriate controls should be in place to ensure that the product cannot discharge to drain, unless it is suitably treated to conform with the local regulatory discharge standards.

Note: The above advice is based upon and limited to our knowledge and experience of the product. It is the responsibility of the user to determine what particular controls and types of protective equipment are suitable and appropriate in relation to the specific conditions under which the product is used.

9. Physical & Chemical Properties: Typical data

Appearance	Amber liquid.
Auto ignition temperature	>200°C
Odour	Mild characteristic
Flash Point (closed cup)	>100°C
pH @ 3% aq.	9.3 typical
Boiling point	>100°C
Density at 15.6°C	0.976 typical
Vapour Density (air=1)	>1
Water Solubility	Miscible to form an emulsion
Solubility in solvents	Soluble petroleum solvents
Evaporation rate (but. Acetate=1)	<1

10 Stability and Reactivity

Stability This product is stable and unlikely to react in a hazardous manner under normal conditions of use.

Conditions to avoid Extremes of temperature: preferably store between 5 & 30°C. Protect from frost and do not heat/store above 60°C for prolonged periods, particularly in contact with aluminium containing materials.

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12 Ecological Information

Ecological data is based on information on components and knowledge and experience of this or similar products.

Mobility

The product will disperse as an emulsion in water. If released on land, small quantities will be absorbed in the upper soil layers where biodegradation may take place. Larger quantities may penetrate into anaerobic soil layers where mineral oil and some other organic compounds may persist. Many of the components have a high soil absorption coefficient which should help to prevent significant contamination of ground water. If it reaches the water table, the mineral oil could disperse as an emulsion if the emulsifiers in the product have also penetrated the soil layers.

Degradability and Persistence

The individual components range from readily to slowly biodegradable. The product contains mineral oil which has limited ready biodegradability when tested by methods CEC L-33-A-93 and OECD 301B. Mineral oil will biodegrade slowly in aerobic water and sediments, and is considered to be ultimately biodegradable, but it can be persistent in anaerobic conditions. Mineral oil loadings can impair the functioning of sewage treatment plants.

Bio-accumulative Potential

The product will disperse as an emulsion in water, and some components will solubilise in water. Mineral oil has a potential to bioaccumulate – its physical properties and slow rate of bio-degradation suggest that mineral oil could interfere with the normal functioning of ecological cycles, and a contaminated area could be slow to recover.

Aquatic Toxicity

Product is not expected to be highly toxic to aquatic life. Mineral oil is not considered toxic to aquatic life ($LC_{50} > 1000 \text{mg/L}$), but has a potential to bioaccumulate. If released to water, the product will disperse as an emulsion and may deplete the oxygen supply to bottom dwelling organisms. The product contains a small amount of boron; water-soluble borates are widely distributed naturally in the soil and sea. Boron is an essential micronutrient for plants – but it is phytotoxic in higher concentrations.

13 Disposal Considerations

Note

All means of disposal should comply with national and local regulations and (in the UK) the Environmental Protection Act, 1990 Part 2 'WASTE'. Dispose of product and containers carefully and responsibly. Do not allow products to contaminate ponds, watercourses, soil or drains. Do not dispose of undiluted product or untreated emulsions down the drains.

Undiluted fluid

The product should be disposed of via an authorised person/licensed waste disposal contractor. The product may be incinerated in suitable equipment and under controlled conditions.

Diluted fluid Dispose of via an authorised person/licensed waste disposal contractor. Alternatively, emulsions or solutions can be treated in an appropriate treatment facility (e.g. Chemical splitting or Ultrafiltration) to separate the mineral oil and other components from the water phase). The clarified water phase may contain dissolved salts, surfactants, trace hydrocarbons, and other dissolved materials. It should not be discharged into the sewer system without approval from the appropriate authority and without checking for compliance with issued consent conditions. Further treatment may be required. The non-aqueous phase should be disposed of as for undiluted product.

Applicable EC Regulations

The Waste Framework Directive (75/442/EEC); Hazardous Waste Directive (91/689/EEC) and amendments/additions; Waste Oil Directives (75/439/EEC and 87/101/EEC)

Applicable UK Regulations

The Environmental Protection Act 1990, Environment Act 1995 and Special Waste Regulations 1996 and amendments.

Contaminated Packs

Any special regulatory disposal status or provisions applicable to the product may also apply to empty containers of packaging if they contain, or are impregnated with, residual material.

Note: It is the end-users responsibility to determine the regulatory status of waste at the time of disposal.

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14 Transport Information

Classification	Not classified as dangerous
Marine pollutant	No
UN Shipping No.	Not classified as dangerous/hazardous
UN No.	N/A
Diamond Labels	N/A
UN Pack Group	N/A
IMO / IMDG Class	Not classified as dangerous/hazardous
IATA / CAO	Not classified as dangerous/hazardous
ADR	Not classified as dangerous/hazardous

15 Regulatory Information

EEC Classification	Xi Eye irritant
EEC No.	N/A
Risk Phrases	R36: Irritating to eyes
Safety Phrases	S25: Avoid contact with eyes. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37: Wear suitable gloves. S39: Wear eye/face protection.

Note: The above classification relates to the undiluted product as supplied. It may not apply when the product is diluted to the operating strength.

UK Regulations/ EC Directives

The product is not known to be subject to any specific EC provisions or restrictions. The above classification needs to be considered when carrying out workplace risk assessments, such as (in the UK) those required by COSHH Regulations using the principles of the HSE's 'COSHH Essentials'.

16 Other Information

Do not add other chemicals or materials to the product or dilute emulsions unless recommended. Emulsions should be maintained at the recommended concentration in order to minimise health hazards. In particular, water can evaporate leading to an increase in concentration which may in turn lead to an increased likelihood of skin defatting and irritation. A refractometer can be used to give a convenient check on emulsion strength. During machining, coolant can become contaminated with tramp oil, metal debris and other contaminants which can solubilise in the emulsion, such as chromium, nickel cobalt. Metal particles can abrade the skin, increasing the potential for irritation to occur, whilst oil and metal contamination can increase the possibility of allergic skin reactions. This product contains mineral oil with a published TLV/OES of 5mg/m³ as oil mist. It is advisable to control this level below 2-3mg/m³ to minimise discomfort and nuisance complaints.