

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY

NAME AND ADDRESS OF SUPPLIER

Precision Saw & Tool Ltd

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PRODUCT NAME: EP200 SOLUBLE CUTTING OIL

APPLICATION: Biostable emulsifiable metal working fluid concentrate which is normally to be diluted with water prior to use (typical dilutions 3 - 10% in water). For additional advice regarding specific applications, refer to the product Technical Data Sheet or contact your local representative.

2. HAZARDS IDENTIFICATION:

Health and Safety

Hazards: Eye contact with the undiluted product may cause irritation with a potential to cause corneal injury if treatment is not prompt. The undiluted product may be irritating to the skin, especially if the material is not removed promptly. Prolonged or repeated contact with over strength emulsions may lead to defatting of the skin and/or slight irritation. For further information, refer to Section 11 - Toxicological Information.

Environmental Hazards: 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 of Product After Use:

During use, metalworking emulsions may become contaminated with metal particles and metal salts, other lubricants and microbiological contaminants. These may increase the irritancy of the emulsions, and in some cases (e.g., contamination by chromium, cobalt and nickel) may be capable of inducing allergic skin reactions or introducing other additional hazards. Small amounts of nitrosamines may be formed if sodium nitrite is added.

Pressure Injection:

Pressure injection of all products will cause severe internal damage if not promptly treated.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

General: This product is based on mineral oil, emulsifiers and corrosion inhibitors, with non-phenolic coupling agents and additional performance additives.

Composition Information Classification & R Phrases	Wt%	Exposure Limits
Diethanolamine esters and reaction products xi: R36/38	5-20	Diethanolamine TWA 3ppm :15mg/m3
Highly refined mineral oil -	5-20	Oil Mist: TWA 5mg/m3
Sodium Sulphonates xi: R36/38	1-10	
Potassium soaps xi: R36	1-10	
Non-ionic Surfactants xi: R38	1-10	

4. FIRST AID MEASURES

Eyes: Immediately wash eye thoroughly with plenty of clean water ensuring eyelids are held open. For contact with undiluted fluid, obtain prompt medical attention. For contact with diluted fluid, obtain medical attention if irritation or redness persists, or as an additional precaution.

Skin: Following contact with the undiluted product, wash thoroughly with soap and water without delay. Remove heavily contaminated clothing. Wash/laundry contaminated clothing before re-use. If irritation persists, obtain medical advice. If the use of metal-working emulsions gives rise to irritation or skin rashes, possibly contamination and/or usage conditions may need to be investigated.

Inhalation: For effects produced by over exposure, move to fresh air. If effects persist, obtain medical advice.

Ingestion: DO NOT INDUCE VOMITING. Wash out mouth with water and obtain medical attention. Milk or water to drink may be beneficial. Treat symptomatically. If the product is aspirated into the lungs (e.g., during vomiting), send to hospital immediately.

Pressure Injection:

Always obtain immediate medical attention even though the injury may appear minor.

5. FIRE FIGHTING MEASURES

Flammability: High energy sources may induce combustion of the undiluted product. The diluted emulsions do not support combustion.

Flash Point: > 100°C (Closed Cup)

Extinguishing Media:

Small Fires: Foam, dry powder, carbon dioxide, sand or earth.

Large Fires: Foam or water fog. DO NOT USE WATER JETS.

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Products of Combustion:

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

Special Fire Hazards:

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

Special Fire Fighting Procedures:

Fire-fighters should enter area wearing self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Prevent entry to drains or watercourses. Spillages can be slippery.

Small Spills: Soak in absorbent granules or sand.

Large Spills: Bund using absorbent granules, sand or earth. Reclaim liquid directly or soak in an absorbent medium, and transfer to a suitable, marked container.

Disposal of Spillage:

By incineration or via authorised/licensed waste disposal contractor. Disposal must be in accordance with local regulations and the Environmental Protection Act 1990.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes by undiluted product - wear chemical goggles and impervious gloves when handling the undiluted product.

Storage: Store in dry conditions protected from frost and elevated temperature. Avoid heat and sources of ignition. Store in original containers or in other mild steel or high-density polyethylene containers which are closable and clearly labelled.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Exposure Limits:

The product does not have an established Occupational Exposure Standard (OES) or Maximum Exposure Limit (MEL). However, it contains components which have individual OES's (see Section 2).

Eyes: Wear chemical goggles when handling the undiluted product or if there is a risk of splashing with the diluted product.

Skin: Wear impervious gloves when handling the undiluted product. Prolonged or repeated contact with diluted, metalworking fluid emulsions is often unavoidable - in such circumstances, the use of appropriate barrier and after-work creams may be beneficial, and gloves should be considered whenever their use is practical and safe. Change heavily contaminated clothing and overalls as soon as possible.

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Inhalation: Respiratory protection is not normally required. However, suitable respiratory equipment should be provided for those operations which generate vapour, mists or fumes and where exposure cannot be adequately controlled by local exhaust ventilation or other means.

Industrial Hygiene:

Adopt normal good working practices and personal hygiene standards. Wash hands after use, before eating, drinking or smoking and before and after using the toilet. Contaminated clothing should be laundered before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Blue liquid
Specific Gravity @ 20°C	1.01
pH	8.9 – 9.4 @ 3%
Odour	Mild
Water Solubility:	Miscible to form an emulsion.
Flash Point °C:	>100 (Closed Cup)
Flammability Limits, in air:	Not established.
Vapour Pressure@ 20°C	Not determined
Boiling Point (°C):	> 100
Autoignition Temp:	>150°C
Vapour Density, air-1:	Not applicable
Melting Point (°C):	<0

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 and 30°C). Protect from frost. Do not heat above 60°C in the presence of aluminium as, in certain circumstances, hydrogen gas could be evolved.

Material to Avoid:

Strong oxidising agents (e.g., chlorates, peroxides); strong acids; products containing sodium nitrite. May soften some rubbers and similar sealing materials.

Decomposition Products:

Thermal decomposition can produce a variety of compounds, the nature of which will largely depend on the conditions bringing about decomposition. Incomplete combustion or thermal decomposition may be expected to generate such materials as; particulate matter and unburnt hydrocarbons; oxides of carbon; oxides of nitrogen; water; partially oxidised organic compounds; and other unidentified organic and inorganic compounds.

11. TOXICOLOGICAL INFORMATION

Eyes: Eye contact with the undiluted product may cause strong irritation and stinging. May cause corneal injury if treatment is not prompt. Dilute emulsions are expected to cause only slight transient irritation or redness.

Skin: The undiluted product in brief or occasional skin contact may cause slight irritation which could become more intense if not removed promptly. prolonged or repeated exposure with over-strength emulsions may cause defatting of the skin, and/or slight irritation and dermatitis.

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Inhalation: The product is unlikely to present any significant inhalation hazard at ambient temperatures. High temperatures or atomising systems may lead to generation of vapours, mists or fumes which could cause irritation to eyes and respiratory tract. Repeated excessive exposures to oil mists may cause respiratory damage and a condition resembling pneumonia.

Ingestion: The product has a low order of oral toxicity - ingestion is not regarded as a significant health hazard likely to arise in normal use. Swallowing significant quantities may cause discomfort, nausea, irritation of digestive tract, and diarrhoea. Aspiration into lungs caused by vomiting or regurgitation following ingestion can be hazardous with possible resultant chemically induced pneumonia.

Note: Contamination of emulsions during use may introduce additional hazards: see Section 16 (Other Information)

12. ECOLOGICAL INFORMATION

Water: The individual components range from readily to poorly biodegradable. Mineral oil itself has limited biodegradability when tested by method CEC L-33-T-82. The components are not expected to be highly toxic to aquatic life. If released to water, the product may deplete the oxygen supply to bottom dwelling organisms. Nitrosamines may be formed with the nitrogen content in the water or in the presence of nitrites.

Soil: Small quantities will be absorbed in the upper soil layers where biodegradation may take place. Larger quantities may penetrate into anaerobic soil layers in which some of the organic compounds (e.g., mineral oil) may persist. Some components will be capable of penetrating the soil to cause ground water contamination.

13. DISPOSAL CONSIDERATIONS

All means of disposal should comply with local regulations and the Environmental Protection Act 1990. Dispose of product and containers carefully and responsibly. Do not allow product to contaminate ponds, water courses, soil or drains. Do not dispose of undiluted product or untreated emulsions down the drains.

Undiluted Product:

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

Diluted Fluid:

Dispose of via an authorised person/licensed waste disposal contractor. Alternatively, emulsions can be treated in an appropriate effluent treatment facility (e.g., chemical splitting or ultrafiltration) to separate 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 sewage systems without the approval of the appropriate local authority and without checking for compliance with issued consent conditions. Further treatment may be required. The non-aqueous phase can be disposed of as for the undiluted product.

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14. TRANSPORT INFORMATION

Classification:	Not classified as dangerous for conveyance		
UN Number:	Not Applicable	Packaging Group:	Not applicable
UN Shipping Name:	Not Applicable	Marine Pollutant:	No
IMO Class:	Not Applicable		
AD/RID:	Not Applicable		
ICAO/IATA:	Not Applicable		

15. REGULATORY INFORMATION

EEC Classification: Eye Irritant (xi)

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.

Note: The above classification applies to the undiluted product as supplied. It does not apply when the product is diluted for use at the correct operating strength.

16. OTHER INFORMATION

(1) Other materials should not be added to the product or emulsions unless recommended. (2) Emulsions should be maintained at the recommended concentrations in order to minimise any health hazards. Water evaporation can lead to an increase in concentration which may result in an increased likelihood of skin defatting and irritation. A refractometer can be used to give a convenient check of emulsion strength. (3) Minimise tramp oil and other contamination; remove metallic swarf or other debris from machines at frequent intervals. (4) During machining, metallic particles from work pieces or tools can contaminate emulsions. These may abrade the skin with a resultant increase in perceptibility to the inherent irritancy effects of the emulsion. (5) During machining, emulsions may become contaminated with certain metals which are present in the workpieces or tools. These may solubilise in the emulsions. Some of these contaminants (e.g., chromium, nickel and cobalt) are capable of inducing allergic skin reactions. Some may also introduce an increased risk to health if excessive exposure to mists occurs.

Additional Information: The following references provide further information on specific aspects.

Legislation Chemical (Hazards, Information and Packaging) Regulations 1993
Environmental Protection Act 1990; Control of pollution Act 1974
The Environmental Protection (Duty of Care) Regulations 1991

Guidance EH 26* - Occupational Skin Diseases: Health and Safety Precautions
EH 40* - Occupational Exposure Limits
EH 49* - Nitrosamines in Synthetic Metal Cutting and Grinding Fluids
EH 58* - The Carcinogenicity of Mineral Oils
EH 62* - Metalworking Fluids - Health Precautions
MS 24* - Health Surveillance of occupational Skin Disease
HS(G)53* - Respiratory Protective Equipment
L5* - Approved Codes of Practice: (1) Control of substances hazardous to health
and (2) Control of Carcinogenic substances
SHW 397* - Effects of Mineral Oil on the Skin (cautionary notice)
Institute of Petroleum Code of Practice for Metalworking Fluids (John Wiley & Sons)

* - HSE Publication