

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DARINA® EP GREASE 2

1. Product and Company Identification

Product name: Darina® EP Grease 2
Synonyms: Cartridge Grease, Shell Darina® EP Grease 2
Item Numbers: 085-049-858

European Contact Details

Edwards, Manor Royal, Crawley
West Sussex, RH10 9LW, England
E-mail: info@edwardsvacuum.com

General enquiries

UK : +44 (0)1293 528844
France : +(33) 1 47 98 24 01
Germany : +(49) 6420-82-410
Italy : +(39) 0248-4471

US Contact Details

Edwards, Three Highwood Drive, Suite 3-10E,
Highwood Office Park, Tewksbury, MA 01876

General enquiries

+(1) 978-658-5410
Toll Free: 1-800-848-9800

24 h Emergency telephone number:

Chemtrec: 1-800-424-9300

2. Hazards Identification

EMERGENCY OVERVIEW

Non-hazardous in bulk grease form at low to moderate temperatures.
Prolonged exposure to skin may possibly cause skin disorders.
High-pressure injection under the skin may cause serious damage including local necrosis.
Inhalation of mists or vapours from hot grease may cause irritation of the upper respiratory tract.
For short and long term exposure effects see Section 11 Toxicological data.

Eye Effects: Short-term exposure may cause slight irritation.

Skin Effects: Short-term exposure may cause slight irritation. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis. Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas.

Ingestion/Oral Effects: Low toxicity on ingestion. Ingestion may result in nausea, vomiting and/or diarrhoea.

Inhalation Effects: The product is not expected to be inhaled in any appreciable quantities under normal ambient conditions. Elevated temperatures or mechanical action may form vapours, mists or fumes, inhalation of which may cause irritation of the respiratory tract.

Injection Effects: High-pressure injection under the skin may cause serious damage including local necrosis (Used grease may contain harmful impurities). Local necrosis is evidenced by delayed onset of pain and tissue damage a few hours following injection.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Repeated contact may aggravate pre-existing skin conditions.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DARINA® EP GREASE 2

NFPA Hazard codes		HMIS Hazard codes		Rating System
Health	0	Health	0	0 = No Hazard
Flammability	1	Flammability	1	1 = Slight Hazard
Instability	0	Reactivity	0	2 = Moderate Hazard
				3 = Serious Hazard
				4 = Severe Hazard

3. Composition/Information on Ingredients

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase*
Refined mineral oil	80 - 90	Not disclosed	Not applicable	Not applicable
Additives	10 - 20	Not disclosed	Not applicable	Not applicable

*Hazard class & Risk phrase. These columns are only completed for ingredients which are classified as hazardous under EU Directive No 1272/2008 (as amended) and are present in sufficient concentration to make the overall substance hazardous. In all other situations, the column will be completed as "Not applicable".

4. First Aid Measures

Eyes:	Flush eyes with large amounts of water for at least 15 minutes, keeping eyelids open. Seek medical attention if irritation persists.
Skin:	Remove contaminated clothing, and launder before reuse. Gently and thoroughly wash affected area of skin with running water and non-abrasive soap. Seek medical attention if irritation persists. When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop. Obtain medical attention even in the absence of apparent wounds. See advice to physician below.
Ingestion/Oral:	If swallowed, DO NOT induce vomiting. Seek medical attention.
Inhalation:	No treatment necessary under normal conditions of use. If any respiratory irritation is observed, use approved respiratory protection and remove the affected person to a safe area as soon as possible. Administer artificial respiration if breathing has stopped. Seek medical attention.
Other Information:	Safely dispose of heavily contaminated clothing which cannot be cleaned.
Advice to Physician	Treat symptomatically. High pressure injection injuries require prompt surgical intervention and possibly steroid therapy, to minimise tissue damage and loss of function. Because entry wounds are small and do not reflect the seriousness of the underlying damage, surgical exploration to determine the extent of involvement may be necessary. Local anaesthetics or hot soaks should be avoided because they can contribute to swelling, vasospasm and ischaemia. Prompt surgical decompression, debridement and evacuation of foreign material should be performed under general anaesthetics, and wide exploration is essential.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DARINA[®] EP GREASE 2

5. Fire Fighting Measures

- Extinguishing Media: Extinguish with foam, water spray or fog. Do not use water in a jet. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Use water spray to cool surfaces exposed to fire and to protect personnel. Shut off source of fuel to the fire. Cover spills with foam.
- Fire and Explosion Hazard: Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke), carbon monoxide, unidentified organic and inorganic compounds. Avoid spraying water directly into storage containers due to danger of boilover. Containers may explode if exposed to fire. See also Section 4 "First Aid measures" and Section 10 "Stability and Reactivity".
- Special Protective Equipment for Fire Fighters: Fire fighters should wear respiratory and eye protection, and full turnout gear, when approaching a fire in a confined space.

For Flammability Properties - see Section 9.

6. Accidental Release Measures

Remove/extinguish sources of ignition. Avoid inhalation and contact with skin and eyes. Stop the source of the leak if it is safe/possible to do so. Use dykes to prevent spreading.

Use suitable inert absorbent materials to absorb spilled product. Shovel into a suitable clearly marked container for disposal or reclamation in accordance with local regulations. Dispose of collected product safely: see Section 13 "Disposal Considerations".

Avoid contaminating sewers, streams, rivers and other water courses with spilled product. Notify the appropriate authorities if significant contamination occurs.

7. Handling and Storage

- General precautions Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
- Handling: Keep away from sources of ignition. Avoid prolonged or repeated contact with skin. Avoid inhalation and contact with skin and eyes. In case of insufficient ventilation, wear suitable respiratory equipment. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently. Dispose of contaminated leather clothes and shoes and other contaminated clothing items which cannot be properly cleaned.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DARINA[®] EP GREASE 2

Storage: Store in tightly closed containers in cool, dry and well-ventilated areas. Use properly labelled and sealed containers. For containers or container linings, use mild steel or high density polyethylene. Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion. Do not use PVC containers.
Storage temperature: 0 - 50 °C / 32 - 122 °F.
Store away from heat, sources of ignition, and incompatible materials: see Section 10 "Stability and Reactivity".

8. Exposure Controls/Personal Protection

Exposure Limits:

Ingredient	ACGIH - TLV -	OSHA - PEL	Occupational Exposure Limits EH40 (UK)
Oil mist, mineral	10 mg/m ³ ⁽¹⁾ - STEL 5 mg/m ³ ⁽¹⁾ - 8 hr TWA (as oil mist, mineral)	5 mg/m ³ - 8 hr TWA (as oil mist, mineral)	5 mg/m ³ - 8 hr TWA ⁽²⁾ 10 mg/m ³ - 15 min TWA ⁽²⁾

(1) Sampled by a method that does not collect vapour.

(2) Government limits for oil mists.

Personal Protection:

Engineering Measures: The level of protection and types of exposure controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances.

Where the material is heated and/or vapours or mists may be present, mechanical ventilation should be used to keep exposure to airborne contaminants below the recommended exposure limits.

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Respiratory Protection: Special ventilation is not necessary for normal applications.

When vapour/mist concentrations in air may exceed the exposure limits (and where engineering or other means of exposure reduction are not adequate) use an approved respirator. If air-filtering respirators are used, select an appropriate combination of mask and filter. The filter should be suitable for combined particulate/organic gases and vapours where the boiling point is >65°C (149 °F).

Hand/Skin Protection:

Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves.

Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.

Eye/Face Protection:

Wear chemical goggles/glasses or face shield where splashing may occur.

Hygiene Measures:

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DARINA[®] EP GREASE 2

9. Physical and Chemical Properties

Appearance and Odour	Amber, smooth grease. Mild hydrocarbon odour.	Boiling point	No data available	°C/°F
pH (as supplied)	Not applicable	Freezing Point	No data available	°C/°F
Solubility in Water	Insoluble	Auto Ignition	> 320 / 608	°C/°F
Volatile Content by Volume	Non volatile	Flash Point	> 150 / 302	°C/°F
Specific Gravity	0.9			
Vapour Pressure (mbar)	5×10^{-3}	Vapour Pressure (Torr)	3.75×10^{-3}	

10. Stability and Reactivity

Stability:	Stable under normal working conditions.
Material/Conditions to Avoid:	Strong oxidising agents. Extremes of temperature and direct sunlight.
Hazardous Decomposition:	Hazardous decomposition products are not expected to form during normal storage.
Hazardous Polymerisation:	No data available.

11. Toxicological Information

For a comprehensive description for the various toxicological (health) effects which may arise if the user comes into contact with the substance or preparation refer to Section 2 Hazards Identification.

Animal data:

LD50 value: Acute oral toxicity : > 5000 mg/kg (rat); Acute dermal toxicity : > 5000 mg/kg (rabbit);
Acute inhalation toxicity: Not considered to be an inhalation hazard under normal conditions of use.

LC50 value: No data available.

Carcinogenicity:

The product does not contain any chemicals that are listed as carcinogens.

Reproductive and Developmental Toxicity:

Not expected to be a hazard.

Additional information:

Used grease may contain harmful impurities that have accumulated during use. The concentration of such harmful impurities will depend on use and they may present risks to health and the environment on disposal. ALL used grease should be handled with caution and skin contact avoided as far as possible. High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DARINA[®] EP GREASE 2

12. Ecological Information

Acute Toxicity:

Poorly soluble mixture. May cause physical fouling of aquatic organisms.

Expected to be practically non toxic:

LL/EL/IL50 > 100 mg/l (to aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract).

Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.

Mobility:

Semi-solid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.

Persistence/degradability:

Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.

Bioaccumulation:

Contains components with the potential to bioaccumulate.

Other adverse effects:

Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. Disposal Considerations

Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. This product is NOT suitable for disposal into the environment, by either landfill or via municipal sewers, drains, natural streams or rivers.

Empty containers should be taken for recycling, recovery or disposal through a suitably qualified or licensed contractor. Care should in any case be taken to ensure compliance with EC, national and local regulations. Empty containers may contain combustible product residue. Use appropriate precautions.

14. Transport Information

This product is not classified as dangerous under transport regulations.

PARAMETER	EUROPEAN	CANADIAN TDG	UNITED STATES DOT
Proper Shipping Name	Not applicable	Not applicable	Not applicable
Hazard Class	Not applicable	Not applicable	Not applicable
Identification Number	Not applicable	Not applicable	Not applicable
Shipping Label	Not applicable	Not applicable	Not applicable

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DARINA[®] EP GREASE 2

15. Regulatory Information

European Regulatory Information

This product has been classified in accordance with EU Regulation No 1272/2008 (as amended) on the Classification, Labelling and Packaging of Substances and Mixtures.

Classified as dangerous to supply: No.

Risk Phrases : Not applicable.

Safety Phrases : Not applicable.

Symbols : None.

United States Regulatory Information

This material is on the Toxic Substances Control Act Inventory (TSCA-U.S.).

SARA TITLE III - SECTION 313 SUPPLIER NOTIFICATION:

This product does not contain toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 and 40 CFR Part 372.

California Proposition 65: This product does not contain chemical known to the State of California to cause cancer or reproductive toxicity.

Canadian Regulatory Information

WHMIS Classification: D2B.

This material is on the Domestic Substances List (DSL-Canadian).

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : DARINA® EP GREASE 2

16. Other Information

This MSDS is compiled in accordance with ANSI Z400.1 and Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Sources of information for this data sheet:

- SOPUS Products "DARINA® Grease SD 2" Material Safety Data Sheet # 402976L, Version 2.1, Revision date: 03/10/2009.

Glossary:

ACGIH - American Conference of Governmental Industrial Hygienists; ANSI - American National Standards Institute; Canadian TDG - Canadian Transportation of Dangerous Goods; CAS - Chemical Abstracts Service; Chemtrec - Chemical Transportation Emergency Center (US); DSL - Domestic Substances List; EH40 (UK) - HSE Guidance Note EH40 Occupational exposure limits; EPCRA - Emergency Planning and Community Right-to-Know Act; HMIS - Hazardous Material Information Service; LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; OEL - Occupational Exposure Limit; OSHA - Occupational Safety and Health Administration, US department of Labour; PEL - Permissible exposure limit; SARA (Title III) - Superfund Amendments and Reauthorization Act; STEL - Short Term Exposure Limit; TLV - threshold limit value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time-Weighted Average; US DOT - US Department of Transportation; WHMIS - Workplace Hazardous Materials Information System.

Revisions:

August 2010 - Data Sheet updated to reflect the latest supplier safety information.

Although the information and recommendations in this data sheet are to the best of our knowledge correct, it is recommended that you make your own determination of the material's suitability for your purpose before you use it. The information contained in this data sheet has been reproduced from the manufacturers data; the accuracy of this information is the responsibility of the manufacturer. Edwards accept no responsibility for damage of any nature resulting from the use of, or the reliance upon, this data sheet.