

SAFETY DATA SHEET (SDS)

PRODUCT NAME: Darina EP Grease 2

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING

1.1 Product identifier

Product name: Darina EP Grease 2
Other means of identification: Cartridge Grease, Shell Darina EP Grease 2, Shell Darina Grease SD 2
Item numbers: 085-049-858

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

Identified use: Lubricating grease.
Uses advised against: No data available.

1.3 Details of the supplier of the safety data sheet.

UK contact details

Edwards, Innovation Drive, Burgess Hill, West Sussex,
RH15 9TW, United Kingdom

General enquiries
Tel: +44 (0)8459 212223
Email: info@edwardsvacuum.com

US contact details

Edwards, 6416 Inducon Drive West, Sanborn,
New York, 14132, USA

General enquiries
Toll Free: 1-800-848-9800

1.4 Emergency telephone number

Chemtrec: 1-800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS classification: Mixture.
Classification according to
Regulation (EC) No. 1272/2008: No data available.
Classification according to
Directive 1999/45/EC: No data available.

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2.2 Label elements

Hazard pictograms: No data available.
Signal words: No data available.
Hazard statements: No data available.
Precautionary statements: No data available.

2.3 Other hazards

PBT criteria: No data available.
vPvB criteria: No data available.
Other hazards which do not result in a classification: None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase / Hazard Statements*
Highly refined mineral oil and additives **	100	No data available	Not applicable	Not applicable
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	1-5	68411-46-1	Not applicable	R52/53

* Hazard class, Risk phrase and Hazard Statements. 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".

** Ingredient Information. The highly refined mineral oil contains < 3% (w/w) DMSO-extract, according to IP346.

Full text for the declared risk phrases and hazards statements is given in Section 16.

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SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

Eyes:	Rinse thoroughly with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention if symptoms persist.
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 the hospital. Do not wait for symptoms to develop. Obtain medical attention even in the absence of apparent wounds. Refer to "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 breathing problems occur, remove the affected person to fresh air and keep at rest. A qualified individual should administer Oxygen or artificial respiration as indicated. Seek immediate medical attention.
General advice:	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 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.

4.2 Most important symptoms and effect, both acute and delayed

Potential acute health effects:

Eyes:	None known.
Skin:	Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne / folliculitis. High pressure injection under the skin may cause serious damage including local necrosis. Local necrosis is evidenced by delayed onset of pain and tissue damage a few hours after injection. Oil acne / folliculitis is evidenced by the formation of black pustules and spots on the skin of exposed areas.
Ingestion / Oral:	May cause nausea, vomiting and/or diarrhoea.
Inhalation:	None known.

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Over-exposure symptoms:

Eyes: None known.
Skin: None known.
Ingestion / Oral: None known.
Inhalation: None known.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Foam, water spray or fog.
Dry chemical powder, Carbon Dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media: Water jets.

5.2 Special hazards arising from the substance or mixture

Fire and explosion hazard: No data available.
Hazardous combustion products: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon Monoxide. Unidentified organic and inorganic compounds.

5.3 Advice for fire-fighters

Special precautions for fire-fighters: No data available.
Special protective equipment for fire-fighters: Firefighters should wear Self-Contained Breathing Apparatus (SCBA) with a full face-piece operated in positive pressure mode.

For Flammability Properties - refer to Section 9.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate non-essential staff, or those not equipped with individual personal protective equipment. Turn leaking containers leakside up to prevent the escape of the product. Do not touch or walk through spilled material. Avoid contact with skin and eyes. Put on appropriate personal protective equipment (refer to Section 8).

For emergency responders: No data available.

6.2 Environmental precautions:

Remove/extinguish sources of ignition. Stop the leak if it is safe/possible to do so. Use dykes or bunding to prevent spreading. Avoid contaminating sewers, streams, rivers and other water courses with spilled product. Notify the appropriate authorities if significant contamination occurs.

6.3 Methods and material for containment and cleaning up

Put on the necessary personal protective equipment: refer to Section 8. Exercise caution; the area of the spill may be slippery. Absorb material onto vermiculite, dry sand, earth or similar inert absorbent. Place spilled material into covered container for disposal. Use a suitable cleaning solution to clean up any remaining product. Dispose of according to applicable local, state and federal regulations. Do not flush into surface water or sanitary sewer system.

6.4 Reference to other sections

Refer to Section 8 for information on personal protective equipment.

Refer to Section 13 for information on disposal considerations.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Use local exhaust ventilation if there is a 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 safety 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.

Avoid prolonged or repeated contact with skin. Avoid inhaling vapours and/or mists. 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.

7.2 Conditions for safe storage, including any incompatibilities

DO NOT store together with food. 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 Polythene. Polythene 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

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7.3 Specific end use(s)

No data available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Substance	ACGIH - TLV	OSHA - PEL	Occupational Exposure Limits EH40 (UK)
Oil mist, mineral	5 mg/m ³ - 8 hr TWA 10 mg/m ³ - STEL	No data available	No data available

8.2 Exposure controls

Appropriate engineering controls: The level of protection and types of exposure controls necessary will vary depending upon potential exposure conditions. Select controls based on 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 keep airborne contaminants below the recommended exposure limits.

Individual protection measures:

Eye/Face Protection: Wear safety glasses with side shields, or other safety eye wear, complying with an approved standard, to avoid exposure to liquid splashes, mists or vapours.

Hand/Skin Protection: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g Europe: EN374, US: F79) 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 and dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.

Respiratory Protection: Special ventilation is not required for normal use.

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).

Hygiene Measures: Practice good hygiene. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Other/General Protection: None.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Brown, semi-solid at room temperature	Melting point / freezing point	No data available	°C / °F
Odour	Slight hydrocarbon	Initial boiling point and boiling range	No data available	°C / °F
Odour threshold	No data available	Flash point	> 150 / 302 (COC)	°C / °F
pH	Not applicable	Upper/lower flammability or explosive limits	Typical 1-10 (V) (based on mineral oil)	%
Evaporation rate	No data available	Vapour pressure	< 0.5 @ 20 °C / 68 °F (estimated value(s))	Pa
Flammability (solid, gas)	No data available	Vapour density	> 1	(air=1)
Solubility(ies)	Negligible in water	Relative density	Typically 900 kg/m ³ @ 15 °C / 59 °F	g/l
Partition coefficient: n-octanol/water	> 6 based on similar products	Auto-ignition temperature	> 320 / 608	°C / °F
Explosive properties	No data available	Decomposition temperature	No data available	°C / °F
Oxidising properties	No data available	Viscosity	No data available	cSt

9.2 Other information

Dropping point > 270 °C / 518 °F.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available.

10.2 Chemical stability

Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Extremes of temperature and direct sunlight.

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10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Hazardous decomposition products are not expected to form during normal storage.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:	LD50 Oral: > 5000 mg/kg (rat) LD50 Dermal: > 5000 mg/kg (rabbit)
Irritation:	Skin Irritation: Expected to be slightly irritating. Eye Irritation: Expected to be slightly irritating Respiratory Irritation: Inhalation of vapours or mists may cause irritation.
Corrosivity:	No data available.
Sensitisation:	Not expected to be a skin sensitiser.
Repeat dose toxicity:	Not considered a repeat dose toxicity hazard.
Carcinogenicity:	The product does not contain any chemicals that are listed as carcinogens.
Mutagenicity:	Not considered a mutagenic hazard.
Specific Target Organ Toxicity (STOT) - single exposure	No data available.
STOT - repeated exposure	No data available.
Aspiration hazard	No data available.
Toxicity for reproduction:	Not expected to be a reproduction hazard.

Information on likely routes of exposure

No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Eye Effects:	May cause temporary redness and discomfort.
Skin Effects:	Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Ingestion/Oral Effects:	May cause nausea, vomiting and/or diarrhoea.
Inhalation Effects:	None known.

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Delayed and immediate effects as well as chronic effects from short and long-term exposure

No data available.

Other 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.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Poorly soluble mixture. May cause 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.

12.2 Persistence and 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.

12.3 Bioaccumulative potential

Contains components with the potential to bioaccumulate.

12.4 Mobility in soil

If the product enters soil, it will absorb to soil particles and will not be mobile.

12.5 Results of PBT and vPvB assessment

PBT: No data available.

vPvB: No data available.

12.6 Other adverse effects

Environmental fate and distribution

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

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SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: Recover or recycle if possible. Dispose of the product in compliance with all applicable local and national regulations. This product is not suitable for disposal into the environment, by either landfill or via municipal sewers, drains, natural streams or rivers.

Packaging: Dispose of the packaging in compliance with all applicable local and national regulations. Empty containers should be taken for recycling, recovery or disposal through a suitably qualified or licenced contractor. Empty containers may contain combustible product residue. Use appropriate precautions.

SECTION 14. TRANSPORT INFORMATION

14.1 UN number

ADR/RID	IMDG	IATA	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable

14.2 UN proper shipping name

ADR/RID	IMDG	IATA	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable

14.3 Transport hazard class

ADR/RID	IMDG	IATA	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable

14.4 Packing group

ADR/RID	IMDG	IATA	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable

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14.5 Environmental hazards

ADR/RID	IMDG	IATA	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable

14.6 Special precautions for user

ADR/RID	IMDG	IATA	United States DOT
Not applicable	Not applicable	Not applicable	Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code

No data available.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environment regulations/legislation specific for the substance or mixture

European

This product has been classified in accordance with EU Regulation No 1907/2006 (REACH) on the Classification, Labelling and Packaging of Substances and Mixtures.

Classified as dangerous to supply: No.

German Federal Water Management Act: No data available.

United States

Materials contained in this product are on the U.S. Toxic Substances Control Act (TSCA).

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 chemicals known to the State of California to cause cancer or reproductive toxicity.

Canadian

WHMIS Classification: No data available.

Ingredients in this product are not included in the Canadian DSL.

15.2 Chemical safety assessment

No data available.

SECTION 16. OTHER INFORMATION

This SDS is compiled in accordance with ANSI Z400.1, Regulation (EC) No 1907/2006 (as amended by Regulation No 453/2010) concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

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16.1 Full text of abbreviated statements and phrases

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

16.2 NFPA / HMIS hazard codes

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

16.3 Sources of information for this data sheet

- Compania Distribuidora S.A (CODISA). Shell Darina Grease SD2 Material Safety Data Sheet Version 1.0. Effective Date: 4th April 2010.

16.4 Glossary

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ANSI - American National Standards Institute; CAS No. - Chemical Abstracts Service number; Chemtrec - Chemical Transportation Emergency Centre (US); DSL - Domestic Substances List; EH40 (UK) - HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA - Emergency Planning and Community Right-to-Know Act; EU European Union; GHS - Globally Harmonized System of Classification and Labelling of Chemicals; HMIS - Hazardous Material Information Service; IATA - International carriage of dangerous goods by air; IBC - International Bulk Chemical; IMDG - International carriage of dangerous goods by sea; LD - Lethal Dose; MARPOL 73/78 - International Convention for the Prevention of Pollution from Ships, 1973 as modified by the protocol of 1978; NFPA - National Fire Protection Association; OSHA - Occupational Safety and Health Administration; PBT - Persistent, Bioaccumulative, Toxic chemical; PEL - Permissible Exposure Limit; REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - International carriage of dangerous goods by rail; SARA (Title III) - Superfund Amendments and Reauthorization Act; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; SDS - Safety Data Sheet; STEL - Short Term Exposure Limit, 15 minute reference period; STOT - Specific Target Organ Toxicity; SCBA - Self-Contained Breathing Apparatus; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time Weighted Average, 8 hour reference period; US DOT - US Department of Transportation; vPvB - Very Persistent, Very Bioaccumulative chemical; WHMIS - Workplace Hazardous Materials Information System.

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16.5 Revisions:

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

June 2012 - Data sheet updated to reflect the latest supplier information & current regulatory information.

November 2012 - European and US Contact Details updated.

November 2014 - Data Sheet updated to conform to Regulation (EC) No 1907/2006 (as amended by Regulation 453/2010) and GHS.

January 2016 - Contact details updated. Revision date not changed to preserve 2-yearly SDS review date.

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 manufacturer's data; accuracy of this information is the responsibility of the manufacturer. It should not, therefore, be construed as guaranteeing any specific property of the product.