According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

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SECTION 1. IDENTIFICATION

Product name : Shell Rotella SD Grease

Product code : 001G8157

Manufacturer or supplier's details

Manufacturer/Supplier : Shell Oil Products US

PO Box 4427

Houston TX 77210-4427

USA

SDS Request : (+1) 877-276-7285

Customer Service

Emergency telephone number

Spill Information : 877-504-9351 Health Information : 877-242-7400

Recommended use of the chemical and restrictions on use

Recommended use : Automotive and industrial grease.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Skin sensitisation : Category 1

GHS label elements

Hazard pictograms



Signal word : Warning

Hazard statements : PHYSICAL HAZARDS:

Not classified as a physical hazard under GHS criteria.

HEALTH HAZARDS:

H317 May cause an allergic skin reaction.

ENVIRONMENTAL HAZARDS:

Not classified as an environmental hazard under GHS criteria.

Precautionary statements : Prevention:

P280 Wear protective gloves/ protective clothing/ eye protection/

face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water and soap.

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P333 + P313 If skin irritation or rash occurs: Get medical advice/

attention.

Storage:

No precautionary phrases.

Disposal:

P501 Dispose of contents/ container to an approved waste dis-

posal plant.

Hazardous components which must be listed on the label:

Contains Zinc Naphthenate

Other hazards which do not result in classification

Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Used oil may contain harmful impurities.

High-pressure injection under the skin may cause serious damage including local necrosis.

Not classified as flammable but will burn.

The classification of this material is based on OSHA HCS 2012 criteria.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : A lubricating grease containing highly-refined mineral oils and

additives.

The highly refined mineral oil contains <3% (w/w) DMSO-

extract, according to IP346.

Hazardous components

Chemical name	Synonyms	CAS-No.	Concentration (% w/w)
Zinc dialkyldithio- phosphate	Phosphorodi- thioic acid, mixed O,O- bis(iso-Bu and pentyl) esters, zinc salts	68457-79-4	1 - 2.49
Zinc naphthenate	Naphthenic acids, zinc salts	12001-85-3	1 - 3

SECTION 4. FIRST-AID MEASURES

In case of skin contact : 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.

Most important symptoms and effects, both acute and

delayed

Local necrosis is evidenced by delayed onset of pain and

tissue damage a few hours following injection.

Indication of any immediate : High pressure injection injuries require prompt surgical inter-

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medical attention and special treatment needed

vention 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.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon diox-

ide, sand or earth may be used for small fires only.

Unsuitable extinguishing

media

Do not use water in a jet.

Specific hazards during fire-

fighting

Hazardous combustion products may include:

A complex mixture of airborne solid and liquid particulates and

gases (smoke).

Carbon monoxide may be evolved if incomplete combustion

occurs.

Unidentified organic and inorganic compounds.

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

Special protective equipment:

for firefighters

Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in

a confined space. Select fire fighter's clothing approved to

relevant Standards (e.g. Europe: EN469).

SECTION 6. ACCIDENTAL RELEASE MEASURES

tive equipment and emergency procedures

Personal precautions, protec- : Avoid contact with skin and eyes.

Environmental precautions Use appropriate containment to avoid environmental contami-

nation. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Methods and materials for

containment and cleaning up

Shovel into a suitable clearly marked container for disposal or

reclamation in accordance with local regulations.

Additional advice : For guidance on selection of personal protective equipment

see Chapter 8 of this Safety Data Sheet.

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For guidance on disposal of spilled material see Chapter 13 of

this Safety Data Sheet.

SECTION 7. HANDLING AND STORAGE

Technical measures : Use local exhaust ventilation if there is risk of inhalation of

vapours, mists or aerosols.

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.

Advice on safe handling : Avoid prolonged or repeated contact with skin.

Avoid inhaling vapour and/or mists.

When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Properly dispose of any contaminated rags or cleaning mate-

rials in order to prevent fires.

Avoidance of contact : Strong oxidising agents.

Further information on stor-

age stability

Keep container tightly closed and in a cool, well-ventilated

place.

Use properly labeled and closable containers.

Store at ambient temperature.

Packaging material : Suitable material: For containers or container linings, use mild

steel or high density polyethylene.

Unsuitable material: PVC.

Container Advice : Polyethylene containers should not be exposed to high tem-

peratures because of possible risk of distortion.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type	Control parame-	Basis
		(Form of	ters / Permissible	
		exposure)	concentration	
Oil mist, mineral	Not Assigned	TWA (Mist)	5 mg/m3	OSHA Z-1
Oil mist, mineral		TWA (Inhal-	5 mg/m3	ACGIH
		able particu-		
		late matter)		

Biological occupational exposure limits

No biological limit allocated.

Engineering measures : Due to the product's semi-solid consistency, generation of

mists and dusts is unlikely to occur.

Environmental exposure controls

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General advice : Use appropriate containment to avoid environmental contami-

nation. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Semi-solid at ambient temperature.

Colour : black

Odour : Slight hydrocarbon

Odour Threshold : Data not available

pH : Not applicable

Dropping point : $>= 240 \, ^{\circ}\text{C} / >= 464 \, ^{\circ}\text{F}$

Method: IP 396

Melting / freezing point Not applicable

Initial boiling point and boiling

range

Data not available

Flash point : Not applicable

Evaporation rate : Data not available

Flammability (solid, gas) : Data not available

Upper explosion limit / upper

flammability limit

Typical 10 %(V)

Lower explosion limit / Lower

flammability limit

Typical 1 %(V)

Vapour pressure : $< 0.5 \text{ Pa} (20 \,^{\circ}\text{C} / 68 \,^{\circ}\text{F})$

estimated value(s)

Relative vapour density : > 1

estimated value(s)

Relative density : 0.900 (15.0 °C / 59.0 °F)

Density : 900 kg/m3 (15.0 °C / 59.0 °F)

Method: Unspecified

Solubility(ies)

Water solubility : negligible

Solubility in other solvents : Data not available

Partition coefficient: n-

octanol/water

log Pow: > 6

(based on information on similar products)

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Auto-ignition temperature : > 320 °C / 608 °F

Decomposition temperature : Data not available

Viscosity

Viscosity, dynamic : Data not available

Viscosity, kinematic : Not applicable

Explosive properties : Not classified

Oxidizing properties : Data not available

Conductivity : This material is not expected to be a static accumulator.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : The product does not pose any further reactivity hazards in

addition to those listed in the following sub-paragraph.

Chemical stability : Stable.

Possibility of hazardous reac-

tions

Reacts with strong oxidising agents.

Conditions to avoid : Extremes of temperature and direct sunlight.

Incompatible materials : Strong oxidising agents.

Hazardous decomposition

products

No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on data on the components and

the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a

whole, rather than for individual component(s).

Information on likely routes of exposure

Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity : LD50 (rat): > 5,000 mg/kg

Remarks: Low toxicity:

Based on available data, the classification criteria are not met.

Acute inhalation toxicity : Remarks: Based on available data, the classification criteria

are not met.

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Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Remarks: Low toxicity:

Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Product:

Remarks: Slightly irritating to skin., Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis., Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Product:

Remarks: Slightly irritating to the eye., Based on available data, the classification criteria are not met.

Components:

Zinc dialkyldithiophosphate:

Remarks: Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Product:

Remarks: Skin sensitiser.

Germ cell mutagenicity

Product:

: Remarks: Non mutagenic, Based on available data, the classification criteria are not met.

Carcinogenicity

Product:

Remarks: Not a carcinogen., Based on available data, the classification criteria are not met.

Remarks: Product contains mineral oils of types shown to be non-carcinogenic in animal skinpainting studies., Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC).

IARC No component of this product present at levels greater than or

equal to 0.1% is identified as probable, possible or confirmed

human carcinogen by IARC.

OSHA No component of this product present at levels greater than or

equal to 0.1% is on OSHA's list of regulated carcinogens.

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NTP No component of this product present at levels greater than or

equal to 0.1% is identified as a known or anticipated carcinogen

by NTP.

Reproductive toxicity

Product:

:

Remarks: Not a developmental toxicant., Does not impair fertility., Based on available data, the classification criteria are

not met.

STOT - single exposure

Product:

Remarks: Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product:

Remarks: Based on available data, the classification criteria are not met.

Aspiration toxicity

Product:

Not an aspiration hazard.

Further information

Product:

Remarks: 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.

Remarks: High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.

Remarks: Slightly irritating to respiratory system.

SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : Ecotoxicological data have not been determined specifically

for this product.

Information given is based on a knowledge of the components

and the ecotoxicology of similar products.

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).(LL/EL/IL50 expressed as the nominal amount of

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product required to prepare aqueous test extract).

Ecotoxicity

Product:

Toxicity to fish (Acute toxici-

ty)

Remarks: LL/EL/IL50 > 100 mg/l

Practically non toxic:

Based on available data, the classification criteria are not met.

Toxicity to daphnia and other :

aquatic invertebrates (Acute

toxicity)

Remarks: LL/EL/IL50 > 100 mg/l

Practically non toxic:

Based on available data, the classification criteria are not met.

Toxicity to algae (Acute tox-

icity)

Remarks: LL/EL/IL50 > 100 mg/l

Practically non toxic:

Based on available data, the classification criteria are not met.

Toxicity to fish (Chronic tox-

icity)

Remarks: Data not available

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

Remarks: Data not available

Toxicity to microorganisms

(Acute toxicity)

Remarks: Data not available

Persistence and degradability

Product:

Biodegradability : Remarks: Not readily biodegradable.

Major constituents are inherently biodegradable, but contains

components that may persist in the environment.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Contains components with the potential to bioac-

cumulate.

Mobility in soil

Product:

Mobility : Remarks: Semi-solid under most environmental conditions.

If it enters soil, it will adsorb to soil particles and will not be

mobile.

Remarks: Floats on water.

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Other adverse effects

Product:

Additional ecological infor-

mation

Does not have ozone depletion potential, photochemical ozone creation potential or global warming potential.

Product is a mixture of non-volatile components, which will not be released to air in any significant quantities under normal

conditions of use.

Poorly soluble mixture.

Causes physical fouling of aquatic organisms.

Mineral oil does not cause chronic toxicity to aquatic organ-

isms at concentrations less than 1 mg/l.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : 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 meth-

ods in compliance with applicable regulations.

Do not dispose into the environment, in drains or in water

courses

Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment. Waste, spills or used product is dangerous waste.

Contaminated packaging : Dispose in accordance with prevailing regulations, preferably

to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand. Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

Local legislation

Remarks : Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

SECTION 14. TRANSPORT INFORMATION

National Regulations

US Department of Transportation Classification (49 CFR Parts 171-180)

Not regulated as a dangerous good

International Regulations

IATA-DGR

Not regulated as a dangerous good

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IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied. MARPOL Annex 1 rules apply for bulk shipments by sea.

Special precautions for user

Remarks : Special Precautions: Refer to Section 7, Handling & Storage,

for special precautions which a user needs to be aware of or

needs to comply with in connection with transport.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ	Calculated product RQ
		(lbs)	(lbs)
maleic anhydride	108-31-6	5000	*

^{*:} Calculated RQ exceeds reasonably attainable upper limit., Shell classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore releases to the environment are not reportable under CERCLA., The components with RQs are given for information.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : The following components are subject to reporting levels es-

tablished by SARA Title III, Section 313:

Zinc dialkyldithiophos- 68457-79-4 >= 1 - < 5 %

phate

Zinc naphthenate 12001-85-3 >= 1 - < 5 %

Clean Water Act

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

maleic anhydride 108-31-6 0.0002 %

US State Regulations

Pennsylvania Right To Know

Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0
Zinc dialkyldithiophosphate	68457-79-4
Zinc naphthenate	12001-85-3
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5

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California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

California List of Hazardous Substances

Distillates (petroleum), solvent-dewaxed heavy paraffinic 64742-65-0 Molybdenum disulfide 1317-33-5 Zinc dialkyldithiophosphate 68457-79-4 Zinc naphthenate 12001-85-3

Other regulations:

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

The components of this product are reported in the following inventories:

EINECS : Not established.

TSCA : All components listed.

DSL : All components listed.

SECTION 16. OTHER INFORMATION

Further information

NFPA Rating (Health, Fire, Reac- 0, 1, 0

tivity)

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-

its for Air Contaminants

ACGIH / TWA : 8-hour, time-weighted average OSHA Z-1 / TWA : 8-hour time weighted average

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this docu-

ment can be looked up in reference literature (e.g. scientific

dictionaries) and/or websites.

ACGIH = American Conference of Governmental Industrial

Hvaienists

ADR = European Agreement concerning the International

Carriage of Dangerous Goods by Road

AICS = Australian Inventory of Chemical Substances ASTM = American Society for Testing and Materials

BEL = Biological exposure limits

BTEX = Benzene, Toluene, Ethylbenzene, Xylenes

CAS = Chemical Abstracts Service

CEFIC = European Chemical Industry Council CLP = Classification Packaging and Labelling

COC = Cleveland Open-Cup

DIN = Deutsches Institut fur Normung

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DMEL = Derived Minimal Effect Level

DNEL = Derived No Effect Level

DSL = Canada Domestic Substance List

EC = European Commission

EC50 = Effective Concentration fifty

ECETOC = European Center on Ecotoxicology and Toxicolo-

gy Of Chemicals

ECHA = European Chemicals Agency

EINECS = The European Inventory of Existing Commercial

Chemical Substances

EL50 = Effective Loading fifty

ENCS = Japanese Existing and New Chemical Substances

Inventory

EWC = European Waste Code

GHS = Globally Harmonised System of Classification and

Labelling of Chemicals

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IC50 = Inhibitory Concentration fifty

IL50 = Inhibitory Level fifty

IMDG = International Maritime Dangerous Goods

INV = Chinese Chemicals Inventory

IP346 = Institute of Petroleum test method N° 346 for the

determination of polycyclic aromatics DMSO-extractables

KECI = Korea Existing Chemicals Inventory

LC50 = Lethal Concentration fifty

LD50 = Lethal Dose fifty per cent.

LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading

LL50 = Lethal Loading fifty

MARPOL = International Convention for the Prevention of

Pollution From Ships

NOEC/NOEL = No Observed Effect Concentration / No Ob-

served Effect Level

OE HPV = Occupational Exposure - High Production Volume

PBT = Persistent, Bioaccumulative and Toxic

PICCS = Philippine Inventory of Chemicals and Chemical

Substances

PNEC = Predicted No Effect Concentration

REACH = Registration Evaluation And Authorisation Of

Chemicals

RID = Regulations Relating to International Carriage of Dan-

gerous Goods by Rail

SKIN DES = Skin Designation

STEL = Short term exposure limit

TRA = Targeted Risk Assessment

TSCA = US Toxic Substances Control Act

TWA = Time-Weighted Average

vPvB = very Persistent and very Bioaccumulative

A vertical bar (|) in the left margin indicates an amendment from the previous version.

Sources of key data used to compile the Safety Data

Sheet

The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU

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IUCLID date base, EC 1272 regulation, etc).

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

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