

SAFETY DATA SHEET



ROYCO 49 MIL-DTL-23549D

Version 1.7 Revision Date: 09/12/2019 SDS Number: 400000001776 Date of last issue: 07/11/2018
Date of first issue: 12/05/2014

SECTION 1. IDENTIFICATION

Product name: ROYCO 49 MIL-DTL-23549D
EXTREME PRESSURE GREASE

Product Use Description: Lubricant

Synonyms: Synthetic Lubricant Formulation

Company: Manufacturer
Anderol Specialty Lubricants, a division of Lanxess Solutions US Inc.
215 Merry Lane
East Hanover, NJ
07936
United States of America (USA)
Telephone: +1 203-573-4596, Toll Free: +1 888-263-3765

Emergency telephone number: CHEMTREC
(24 hours) 800-424-9300

For additional emergency telephone numbers see section 16 of the Safety Data Sheet.

Prepared by: Product Safety Department
(US) +1 866-430-2775

MSDSRequest@lanxess.com

Recommended use of the chemical and restrictions on use

Recommended use : Lubricant

Restrictions on use : Reserved for industrial and professional use.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Skin sensitisation : Category 1

Carcinogenicity : Category 1B

Specific target organ toxicity : Category 2
- repeated exposure


Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

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- Hazard pictograms : 
- Signal word : Danger
- Hazard statements : H317 May cause an allergic skin reaction.
H350 May cause cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H401 Toxic to aquatic life.
H412 Harmful to aquatic life with long lasting effects.
- Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- Response:**
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
- Storage:**
P405 Store locked up.
- Disposal:**
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Paraffin oils (petroleum), catalytic dewaxed heavy	64742-70-7	>= 70 - < 90
molybdenum disulphide	1317-33-5	>= 5 - < 10
sodium nitrite	7632-00-0	>= 2.5 - < 5

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Graphite	7782-42-5	$\geq 1 - < 5$
NJTS#: 46728100000-0002 - Proprietary amine		$\geq 1 - < 2.5$

SECTION 4. FIRST AID MEASURES

- If inhaled : Remove to fresh air.
If breathing is difficult, give oxygen.
If symptoms persist, call a physician.
- In case of skin contact : Wash off with warm water and soap.
If skin irritation persists, call a physician.
Cool skin rapidly with cold water after contact with molten material.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Get medical attention immediately.
- If swallowed : Do NOT induce vomiting.
Obtain medical attention.
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : None known.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
- Notes to physician : For specialist advice physicians should contact the Poisons Information Service.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : (on small fires)
Carbon dioxide (CO₂)
Dry chemical
Dry sand
Extinguishing media - large fires
Water mist
Foam
- Unsuitable extinguishing media : Water spray jet
- Specific hazards during fire-fighting : Burning produces irritant fumes.
Exposure to decomposition products may be a hazard to health.
- Further information : Cool containers/tanks with water spray.
Use extinguishing measures that are appropriate to local cir-

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cumstances and the surrounding environment.

Special protective equipment for firefighters : Self-contained breathing apparatus with full face-piece operated in positive pressure mode.
Body covering protective clothing, full "turn-out" gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Wear suitable protective equipment.

Environmental precautions : Should not be released into the environment.
Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning up : Dam up.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Pick up and transfer to properly labelled containers.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Wear suitable protective equipment.
Avoid contact with skin, eyes and clothing.
Keep tightly closed.
Protect from contamination.

Conditions for safe storage : Keep tightly closed in a dry, cool and well-ventilated place.

Technical measures/Precautions : Keep away from oxidizing agents.

Further information on storage stability : Stable under recommended storage conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Paraffin oils (petroleum), catalytic dewaxed heavy	64742-70-7	TWA (Mist)	5 mg/m ³	OSHA Z-1
		TWA (Mist)	5 mg/m ³	OSHA P0
		TWA (Mist)	5 mg/m ³	NIOSH REL
		ST (Mist)	10 mg/m ³	NIOSH REL
molybdenum disulphide	1317-33-5	TWA (total dust)	15 mg/m ³ (Molybdenum)	OSHA Z-1
		TWA (Inhalable fraction)	10 mg/m ³ (Molybdenum)	ACGIH
		TWA (Res-	3 mg/m ³	ACGIH

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		pirable frac- tion)	(Molybdenum)	
		TWA (Total dust)	10 mg/m3 (Molybdenum)	OSHA P0
Graphite	7782-42-5	TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (respir- able fraction)	5 mg/m3	OSHA Z-1
		TWA (Res- pirable frac- tion)	2 mg/m3	ACGIH
		TWA (Res- pirable)	2.5 mg/m3	NIOSH REL
		TWA (Dust)	15 Million parti- cles per cubic foot	OSHA Z-3
		TWA (Total dust)	10 mg/m3	OSHA P0
		TWA (respir- able dust fraction)	5 mg/m3	OSHA P0
		TWA (respir- able dust fraction)	2.5 mg/m3	OSHA P0
N-1-naphthylaniline	90-30-2	TWA	10 ml/m3	ACGIH

Engineering measures : Use with adequate ventilation.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.
 In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Hand protection

Remarks : Impervious butyl rubber gloves When handling hot material, use heat resistant gloves.

Eye protection : Tightly fitting safety goggles

Skin and body protection : Impervious clothing

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
 Use only with adequate ventilation.
 Avoid breathing vapours, mist or gas.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : viscous liquid

Colour : black

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Odour : No data available

Odour Threshold : No data available

pH : No data available

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : > 392 °F / > 200 °C
Method: open cup

Evaporation rate : No data available

Self-ignition : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : Not applicable

Relative vapour density : No data available

Relative density : 0.99

Solubility(ies)
Water solubility : negligible
Solubility in other solvents : partly soluble

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : not determined

Decomposition temperature : No data available

Self-Accelerating decomposition temperature (SADT) : Method: No information available.

Viscosity
Viscosity, dynamic : No data available
Viscosity, kinematic : No data available

Oxidizing potential : No information available.

SECTION 10. STABILITY AND REACTIVITY

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Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Conditions to avoid : Contamination
Heat, flames and sparks.

Incompatible materials : Strong oxidizing agents

Hazardous decomposition products : Sodium oxides
Sulphur oxides
Carbon oxides
Nitrogen oxides (NOx)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: 2,462 mg/kg
Method: Calculation method

Components:

NJTS#: 46728100000-0002 - Proprietary amine:

Acute oral toxicity : LD50 (Rat): 1,625 mg/kg

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

Skin corrosion/irritation

Components:

NJTS#: 46728100000-0002 - Proprietary amine:

Species : Rabbit

Method : Draize Test

Result : No skin irritation

Serious eye damage/eye irritation

Components:

NJTS#: 46728100000-0002 - Proprietary amine:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

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on OSHA's list of regulated carcinogens.

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.

STOT - repeated exposure

Components:

molybdenum disulphide:

Exposure routes : Oral
Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

NJTS#: 46728100000-0002 - Proprietary amine:

Exposure routes : Oral
Target Organs : Liver, Kidney
Assessment : May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Product:

No aspiration toxicity classification

Further information

Product:

Remarks : No data is available on the product itself.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish :
Remarks: No data available

Components:

NJTS#: 46728100000-0002 - Proprietary amine:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.44 mg/l
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: yes

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 0.68 mg/l
aquatic invertebrates : Exposure time: 48 h
Test Type: semi-static test
Analytical monitoring: yes

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M-Factor (Acute aquatic toxicity) : 1

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.02 mg/l
Exposure time: 21 d
Analytical monitoring: yes

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (Protozoa): 2 mg/l
Exposure time: 48 h

EC50 (Bacteria): > 10,000 mg/l
Exposure time: 3 h

Persistence and degradability

Product:

Biodegradability : Result: No data available

Components:

NJTS#: 46728100000-0002 - Proprietary amine:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 100 mg/l
Result: According to the results of tests of biodegradability this product is not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301
GLP: yes

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

NJTS#: 46728100000-0002 - Proprietary amine:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 427 - 2,730
Exposure time: 56 d
Temperature: 77 °F / 25 °C
Concentration: 0.1 mg/l

Partition coefficient: n-octanol/water : log Pow: 4.28

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Mobility in soil

Product:

Mobility : Remarks: No data available

Other adverse effects

Product:

Results of PBT and vPvB assessment : No data available

Additional ecological information : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : In accordance with local and national regulations.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Dispose of wastes in an approved waste disposal facility.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

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.

National Regulations

49 CFR

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

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

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
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sodium nitrite	7632-00-0	100	4545
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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

Components	CAS-No.	Component TPQ (lbs)
aniline	62-53-3	1000

SARA 311/312 Hazards : Respiratory or skin sensitisation
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

sodium nitrite 7632-00-0 2.2 %

California Prop. 65

WARNING: This product can expose you to chemicals including aniline, 1-naphthylamine, 2-naphthylamine, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

Paraffin oils (petroleum), catalytic dewaxed heavy 64742-70-7
molybdenum disulphide 1317-33-5
sodium nitrite 7632-00-0
Graphite 7782-42-5

California Permissible Exposure Limits for Chemical Contaminants

Paraffin oils (petroleum), catalytic dewaxed heavy 64742-70-7
molybdenum disulphide 1317-33-5
Graphite 7782-42-5

California Regulated Carcinogens

Quartz (SiO₂) 14808-60-7

Please note that Section 3 of this document lists only the hazardous components required by the specific country or region hazard communication regulations. The chemical identifiers listed in Section 3 are used globally for hazard communication purposes and may not reflect those used for chemical inventory coverage in a particular country or region. The chemical inventory information given in Section 15 of this document applies to the product as a whole and should be used when evaluating inventory compliance.

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

DSL : All components of this product are on the Canadian DSL
AICS : On the inventory, or in compliance with the inventory
NZIoC : Not in compliance with the inventory
ENCS : Not in compliance with the inventory
KECI : On the inventory, or in compliance with the inventory

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- PICCS : On the inventory, or in compliance with the inventory
- IECSC : On the inventory, or in compliance with the inventory
- TCSI : Not in compliance with the inventory
- US.TSCA : All substances listed as active on the TSCA inventory

TSCA list

The following substance(s) is/are subject to a Significant New Use Rule:
sodium nitrite 7632-00-0

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:
sodium nitrite 7632-00-0

SECTION 16. OTHER INFORMATION

Further information

Other Emergency Phone Number

<u>Latin America:</u>	Brazil	+55 11 3197 5891
	All other countries	+44 (0) 1235 239 670
<u>Mexico:</u>		+52 55 5004 8763

Full text of other abbreviations

- ACGIH : USA. ACGIH Threshold Limit Values (TLV)
- NIOSH REL : USA. NIOSH Recommended Exposure Limits
- OSHA P0 : USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
- OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
- OSHA Z-3 : USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
- ACGIH / TWA : 8-hour, time-weighted average
- ACGIH / TWA : Time-Weighted Average Limit (TWA)
- NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
- NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
- OSHA P0 / TWA : 8-hour time weighted average
- OSHA Z-1 / TWA : 8-hour time weighted average
- OSHA Z-3 / TWA : 8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely

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Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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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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