



SAFETY DATA SHEET



ROYCO 22MS MIL-G-81827A

Version: 1.1

Revision Date: 09/15/2015

Print Date: 01/05/2016

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: ROYCO 22MS MIL-G-81827A
HIGH LOAD AIRCRAFT GREASE

Product Use Description: Lubricant

Company: Manufacturer
Anderol Specialty Lubricants, a division of Chemtura Corporation
215 Merry Lane
East Hanover, NJ
07936
United States of America

Telephone: +1 203-573-4596, Toll Free: +1 888-263-3765

Emergency telephone number: CHEMTREC: (24 hours) 800-424-9300
:
: 703-527-3887

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

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

MSDSRequest@chemtura.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

| | |
|--------|-----------------------|
| Form | viscous liquid |
| Colour | black |
| Odour | mild hydrocarbon-like |

GHS Classification

Skin sensitisation : Category 1
Carcinogenicity : Category 1B
Acute aquatic toxicity : Category 2
Chronic aquatic toxicity : Category 3

GHS Label element


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Signal word : **Danger**

Hazard pictograms : 

Hazard statements : H317 May cause an allergic skin reaction.
 H350 May cause cancer.
 H401 Toxic to aquatic life.
 H412 Harmful to aquatic life with long lasting effects.

Other hazards : None

Precautionary statements : **Prevention:**
 P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P261 Avoid breathing 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.
 P281 Use personal protective equipment as required.
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.

Self-ignitable : No data available

Carcinogenicity:

IARC Group 2A: Probably carcinogenic to humans
 sodium nitrite 7632-00-0

OSHA Group 2A: Probably carcinogenic to humans
 No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
 No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential



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NTP

carcinogen by OSHA.

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.

Known to be human carcinogen

Quartz (SiO₂) 14808-60-7

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

| Chemical Name | CAS-No. | Concentration (%) |
|---|------------|-------------------|
| molybdenum disulphide | 1317-33-5 | >= 1 - < 5 % |
| Graphite | 7782-42-5 | >= 1 - < 5 % |
| Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene | 68411-46-1 | >= 1 - < 5 % |
| sodium nitrite | 7632-00-0 | >= 1 - < 5 % |
| pentaerythritol | 115-77-5 | >= 1 - < 5 % |
| NJTS#: 46728100000-0002 - Proprietary amine | | >= 0.1 - < 1 % |
| Quartz (SiO ₂) | 14808-60-7 | >= 0.1 - < 1 % |
| (Z)-N-methyl-N-(1-oxo-9-octadecenyl)glycine | 110-25-8 | >= 0.1 - < 1 % |

SECTION 4. FIRST AID MEASURES

- If inhaled : Remove to fresh air.
Aspiration may cause pulmonary oedema and pneumonitis.
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.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids,
for at least 15 minutes.
Obtain medical attention.
- If swallowed : Obtain medical attention.
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : None known.
- 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)



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Dry chemical
Dry sand
Extinguishing media - large fires
Foam
Water mist

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Do not use a solid water stream as it may scatter and spread fire.
Burning produces irritant fumes.
Exposure to decomposition products may be a hazard to health.

Specific extinguishing methods : Cool containers/tanks with water spray.

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 : Scrape up. Pick up and transfer to properly labelled containers.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice.
Avoid contact with skin, eyes and clothing.
Wear suitable protective equipment.
Keep tightly closed.
Protect from contamination.

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

Materials to avoid : Oxidizing agents



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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

| Components | CAS-No. | Form of exposure | Permissible concentration | Basis |
|-----------------------|-----------|--------------------------------|-------------------------------------|-----------|
| molybdenum disulphide | 1317-33-5 | TWA (total dust) | 15 mg/m3 | OSHA Z-1 |
| | | TWA (Inhalable fraction) | 10 mg/m3 | ACGIH |
| | | TWA (Respirable fraction) | 3 mg/m3 | ACGIH |
| Graphite | 7782-42-5 | TWA (Total dust) | 10 mg/m3 | OSHA P0 |
| | | TWA (total dust) | 15 mg/m3 | OSHA Z-1 |
| | | TWA (respirable fraction) | 5 mg/m3 | OSHA Z-1 |
| | | TWA (Respirable fraction) | 2 mg/m3 | ACGIH |
| | | TWA (Respirable) | 2.5 mg/m3 | NIOSH REL |
| | | TWA (Dust) | 15 Million particles per cubic foot | OSHA Z-3 |
| | | TWA (Total dust) | 10 mg/m3 | OSHA P0 |
| | | TWA (respirable dust fraction) | 5 mg/m3 | OSHA P0 |
| | | TWA (respirable dust fraction) | 2.5 mg/m3 | OSHA P0 |
| pentaerythritol | 115-77-5 | TWA | 10 mg/m3 | ACGIH |
| | | TWA (total dust) | 15 mg/m3 | OSHA Z-1 |
| | | TWA (respirable fraction) | 5 mg/m3 | OSHA Z-1 |
| | | TWA (Respirable) | 5 mg/m3 | NIOSH REL |
| | | TWA (total) | 10 mg/m3 | NIOSH REL |
| | | TWA (Total dust) | 10 mg/m3 | OSHA P0 |
| | | TWA (respirable dust fraction) | 5 mg/m3 | OSHA P0 |



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| | | | | |
|---|------------|--------------------------------|---------------------|-----------|
| NJTS#: 46728100000-0002 - Proprietary amine | | TWA | 10 ml/m3 | ACGIH |
| Quartz (SiO2) | 14808-60-7 | TWA (total dust) | 30 mg/m3 / %SiO2+2 | OSHA Z-3 |
| | | TWA (respirable) | 250 mppcf / %SiO2+5 | OSHA Z-3 |
| | | TWA (respirable) | 10 mg/m3 / %SiO2+2 | OSHA Z-3 |
| | | TWA (respirable dust) | 0.05 mg/m3 | NIOSH REL |
| | | TWA (respirable dust fraction) | 0.1 mg/m3 | OSHA P0 |
| | | TWA (Respirable fraction) | 0.025 mg/m3 | ACGIH |

Personal protective equipment

- Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
Respirator with combination filter for vapour/particulate (EN 141)
- Hand protection
Remarks : Impervious gloves
- Eye protection : Safety glasses with side-shields
or
Tightly fitting safety goggles
- Skin and body protection : impervious clothing
- Hygiene measures : If high pressure forces the product under the skin get immediate medical attention!
- Handle in accordance with good industrial hygiene and safety practice.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : viscous liquid
- Color : black
- Odor : mild hydrocarbon-like
- Odour Threshold : No data available
- pH : No data available
- Melting point/range :



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No data available
Boiling point/boiling range : No data available
Evaporation rate : No data available
Flash point : > 230 °C
Method: open cup

Auto-flammability : No data available
Upper explosion limit : No data available
Lower explosion limit : No data available
Vapour pressure : Not applicable
Relative vapour density : No data available
Relative density : 0.8

Solubility(ies)

Water solubility : negligible
Solubility in other solvents : partly soluble

Partition coefficient: n-octanol/water : No data available
Auto-ignition temperature : not determined
Thermal decomposition : No data available

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

SECTION 10. STABILITY AND REACTIVITY

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
Incompatible materials : Oxidizing agents
Hazardous decomposition products : Carbon oxides
Oxides of calcium
Sulphur oxides



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SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity (Product) : LD50: > 5,000 mg/kg
Species: Rat
Remarks: Information given is based on data obtained from similar substances.

Acute inhalation toxicity
pentaerythritol (Component) : LC0: > 11 mg/l
Exposure time: 6 h
Species: Rat
Test substance: see user defined free text
Remarks: Information given is based on data obtained from similar substances.

Acute dermal toxicity
Benzenamine, N-phenyl-,
reaction products with 2,4,4-
trimethylpentene
(Component) : LD50: > 2,000 mg/kg
Species: Rat
pentaerythritol (Component) : LD50: 10,000 mg/kg
Species: Rabbit

NJTS#: 46728100000-0002 - : LD50 Dermal: > 5,000 mg/kg
Proprietary amine
(Component) Species: Rabbit

Skin irritation
Benzenamine, N-phenyl-,
reaction products with 2,4,4-
trimethylpentene
(Component) : Species: Rabbit
Result: No skin irritation
Method: OECD Test Guideline 404
pentaerythritol (Component) : Species: Rabbit
Result: No skin irritation
Method: OECD Test Guideline 404
Remarks: Information given is based on data obtained from similar substances.

NJTS#: 46728100000-0002 - : Species: Rabbit
Proprietary amine
(Component) Result: No skin irritation
Method: Draize Test

Eye irritation
Benzenamine, N-phenyl-,
reaction products with 2,4,4-
trimethylpentene
(Component) : Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
pentaerythritol (Component) : Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
Remarks: Information given is based on data obtained from similar substances.



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substances.

NJTS#: 46728100000-0002 - : Species: Rabbit
Proprietary amine : Result: No eye irritation
(Component) : Method: OECD Test Guideline 405

Sensitisation
Benzenamine, N-phenyl-, : Species: Guinea pig
reaction products with 2,4,4- : Classification: Did not cause sensitisation on laboratory animals.
trimethylpentene : Method: OECD Test Guideline 406
(Component)

NJTS#: 46728100000-0002 - : Maximisation Test (GPMT)
Proprietary amine : Species: Guinea pig
(Component) : Classification: May cause sensitisation by skin contact.
: Result: May cause sensitisation by skin contact.

Patch Test
Species: Human
Classification: May cause sensitisation by skin contact.
Result: May cause sensitisation by skin contact.

Aspiration toxicity (Product) : No aspiration toxicity classification

CMR effects
Benzenamine, N-phenyl-, : Mutagenicity: Not mutagenic in Ames Test
reaction products with 2,4,4-
trimethylpentene
(Component)
pentaerythritol (Component) : Mutagenicity: In vitro tests did not show mutagenic effects
Reproductive toxicity: No toxicity to reproduction

NJTS#: 46728100000-0002 - : Carcinogenicity: Animal testing did not show any carcinogenic effects.
Proprietary amine : Mutagenicity: Animal testing did not show any mutagenic effects., Tests
(Component) : on bacterial or mammalian cell cultures did not show mutagenic effects.

Further information (Product) : No data is available on the product itself.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish (Product) : Remarks:
No data available



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Toxicity to daphnia and other aquatic invertebrates

Benzenamine, N-phenyl-,
reaction products with 2,4,4-
trimethylpentene
(Component) : EC50: 51 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 202

pentaerythritol (Component) : EC50: 600 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

NJTS#: 46728100000-0002 - : EC50: 0.68 mg/l
Proprietary amine
(Component) Exposure time: 48 h
Species: Daphnia magna (Water flea)
semi-static test Analytical monitoring: yes

Toxicity to algae

Benzenamine, N-phenyl-,
reaction products with 2,4,4-
trimethylpentene
(Component) : EbC50: > 100 mg/l
Exposure time: 72 h
Species: Desmodesmus subspicatus (green algae)
Method: OECD Test Guideline 201

pentaerythritol (Component) : EC50: > 1,000 mg/l
Exposure time: 72 h
Species: Algae
Method: OECD Test Guideline 201

Toxicity to bacteria

NJTS#: 46728100000-0002 - : EC50: 2 mg/l
Proprietary amine
(Component) Exposure time: 48 h
Species: Protozoa

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

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

pentaerythritol (Component) : NOEC: > 1,000 mg/l
Exposure time: 21 d
Survival
Species: Daphnia magna (Water flea)

NJTS#: 46728100000-0002 - : NOEC: 0.02 mg/l
Proprietary amine
(Component) Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes

Elimination information (persistence and degradability)

Bioaccumulation (Product) : Remarks:



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No data available

Mobility (Product) : Remarks:
No data available

Biodegradability (Product) : Remarks:
No data available

Further information on ecology

Ecotoxicology Assessment

Results of PBT assessment (Product)

This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).

Additional ecological information (Product) : There is no data available for this product.

Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : In accordance with local and national regulations.

SECTION 14. TRANSPORT INFORMATION

ADR

Not dangerous goods

RID

Not dangerous goods

MERCOSUR

Not dangerous goods

DOT

Not dangerous goods

IATA

Not dangerous goods

IMDG

Not dangerous goods



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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) |
|----------------|-----------|--------------------|-----------------------------|
| sodium nitrite | 7632-00-0 | 100 | * |

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA304 Reportable Quantity

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

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:
sodium nitrite 7632-00-0

US State Regulations

California Prop 65 WARNING! This product contains a chemical known to the State of California to cause cancer.

| | |
|----------------------------|------------|
| Quartz (SiO ₂) | 14808-60-7 |
| aniline | 62-53-3 |

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

| | |
|----------------|---|
| US.TSCA | On TSCA Inventory |
| DSL | This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL. |
| AICS | On the inventory, or in compliance with the inventory |
| NZIoC | Not in compliance with the inventory |
| ENCS | On the inventory, or in compliance with the inventory |
| KECI | On the inventory, or in compliance with the inventory |
| PICCS | On the inventory, or in compliance with the inventory |
| IECSC | On the inventory, or in compliance with the inventory |

SECTION 16. OTHER INFORMATION

Further information

Other Emergency Phone Number



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| | | |
|-----------------------|---------------------|----------------------|
| <u>Latin America:</u> | Brazil | +55 113 711 9144 |
| | All other countries | +44 (0) 1235 239 670 |
| <u>Mexico:</u> | | +52 555 004 8763 |

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