SECTION 1. IDENTIFICATION

Product name : ROYCO 49 MIL-DTL-23549

Product code : 000000000058322772

Manufacturer or supplier's details

Company : LANXESS Corporation
Product Safety & Regulatory Affairs
111 RIDC Park West Drive
15275-1112 Pittsburgh, United States of America

Responsible Department : +1800LANXESS

Emergency telephone number : CHEMTREC: +1 (800) 424 9300
International: +1 (703) 527 3887

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 the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin sensitisation : Category 1

Carcinogenicity : Category 1A

Specific target organ toxicity - single exposure : Category 2 (Blood)

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

Specific target organ toxicity - repeated exposure : Category 2 (Kidney)

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : May cause an allergic skin reaction.
May cause respiratory irritation.
May cause cancer.
May cause damage to organs (Blood).
May cause damage to organs (Kidney) through prolonged or repeated exposure.

Precautionary statements :

Prevention:

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
IF exposed or concerned: Call a POISON CENTER/ doctor.
IF exposed or concerned: Get medical advice/ attention.
If skin irritation or rash occurs: Get medical advice/ attention.
Wash contaminated clothing before reuse.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Paraffin oils (petroleum), catalytic	64742-70-7	>= 70 - < 90

dewaxed heavy		
sodium nitrite	7632-00-0	>= 1 - < 5
N-PHENYL-1-NAPHTHYLAMINE	90-30-2	>= 1 - < 5
Crystalline Quartz Silica	14808-60-7	>= 0.1 - < 1
1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-ar-methyl-	94270-86-7	>= 0.1 - < 1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

SECTION 4. FIRST AID MEASURES

If inhaled : Remove to fresh air immediately. Get medical attention immediately.
Get medical attention immediately.
If unconscious, place in recovery position and get medical attention immediately.
Maintain open airway.
Loosen tight clothing such as a collar, tie, belt or waistband.
The exposed person may need to be kept under medical surveillance for 48 hours.
If not breathing give artificial respiration using a pocket mask type resuscitator. Move to an area free from further exposure.
Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening.

In case of skin contact : Wash off with warm water and soap.
Cool skin rapidly with cold water after contact with molten material.
Wash skin immediately with plenty of water and soap. Subsequent cleansing with polyethyleneglycol 400, then again with water and soap.
Continue to rinse for 30 minutes.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.

If swallowed : Rinse mouth with water.
Do not induce vomiting unless directed to do by medical personnel.
If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.
If unconscious, place in recovery position and get medical attention immediately.
Never give anything by mouth to an unconscious person.
Maintain open airway.

Most important symptoms and effects, both acute and delayed

Symptoms	:	Skin: Causes irritation with symptoms of reddening, itching, and swelling. Once sensitized, an allergic skin reaction may occur with reddening, swelling, and rash when subsequently exposed to very low levels. Acute overexposure to this product may cause dizziness, headache, drowsiness, malaise, abdominal pain. Skin, Ingestion, Inhalation: May cause methemoglobin formation resulting in a reduced ability of the blood to carry oxygen. A symptom of methemoglobin formation may be cyanosis (purplish-blue coloring of the skin, fingernails, and lips).
Effects	:	May cause an allergic skin reaction. May cause respiratory irritation. May cause cancer. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure.
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	:	Immediately give oxygen if signs of cyanosis (lips, ears, fingernails). Spontaneous reversal of methemoglobin can occur after termination of exposure. Cyanosis alone does not require treatment. Provide supportive measures only unless there are clinical signs/symptoms of hypoxia other than cyanosis, or if methemoglobin levels are >30%. Methylene blue may be used if clinically indicated. Hyperbaric oxygen therapy should be considered if methylene blue therapy is not effective or contraindicated (G6PD deficiency). Consider exchange transfusions for severe cases that are refractory to other treatment. Methemoglobin development may be delayed and victim should be observed for at least 6 hours. Hemolysis may appear 24 hours or more after exposure and may cause acute renal failure and arrhythmias. Patients with significant exposures should be monitored for hypoxia and hemolysis for up to 7 days after exposure. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire-fighting	:	Toxic and irritating gases/fumes may be given off during burning or thermal decomposition. Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	:	Sulphur oxides Metal oxides Nitrogen oxides (NOx) Carbon dioxide (CO2) Carbon monoxide
Further information	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Cool closed containers exposed to fire with water.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	No action shall be taken involving any personal risk or without suitable training. Put on appropriate personal protection equipment. Do not touch or walk through spilled material. Evacuate personnel to safe areas. Keep unnecessary and unprotected personnel from entering.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Move containers from spill area. Wash spillages into an effluent treatment plant or proceed as follows. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Dispose of wastes in an approved waste disposal facility. Do not allow into the sewerage system, surface waters or groundwater or into the soil.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Put on appropriate personal protection equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Persons with a history of skin sensitization to this product should not be employed in any process in which this product is used.
Conditions for safe storage	:	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container closed when not in use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate container to avoid environmental contamination. Empty containers retain residue and can be dangerous. Do not reuse container.
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/m3	OSHA Z-1
molybdenum disulphide	1317-33-5	TWA (total dust)	15 mg/m3 (Molybdenum)	OSHA Z-1
		TWA (Inhalable particulate matter)	10 mg/m3 (Molybdenum)	ACGIH
		TWA (Respirable particulate matter)	3 mg/m3 (Molybdenum)	ACGIH
graphite	7782-42-5	TWA (Dust)	15 Million particles per cubic foot	OSHA Z-3
		TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (respir-	5 mg/m3	OSHA Z-1

		able fraction)		
		TWA (Respirable particulate matter)	2 mg/m3	ACGIH
Crystalline Quartz Silica	14808-60-7	TWA (Respirable dust)	0.05 mg/m3	OSHA Z-1
		TWA (respirable)	10 mg/m3 / %SiO2+2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO2+5	OSHA Z-3
		TWA (Respirable particulate matter)	0.025 mg/m3 (Silica)	ACGIH
		PEL (respirable)	0.05 mg/m3	OSHA CARC

Engineering measures : If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal protective equipment

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Hand protection
- Material : butyl-rubber
- Wearing time : < 60 min
- Remarks : Impervious gloves When handling hot material, use heat resistant gloves.

Eye protection : Tightly fitting safety goggles

Skin and body protection : Wear suitable protective clothing.
Permeation resistant clothing and foot protection.
When handling hot material wear heat resistant clothing to prevent thermal burns.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Appropriate techniques should be used to remove potentially contaminated clothing.
Wash contaminated clothing before reusing.
Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	viscous liquid
Colour	:	black
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Drop point	:	450 °F / 232 °C Method: ASTM D 2265
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
Burning number	:	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
Density	:	No data available
Solubility(ies)		
Water solubility	:	negligible
Solubility in other solvents	:	partly soluble
Partition coefficient: n-	:	No data available

octanol/water

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
Explosive properties	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	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

The most important known symptoms and effects are described in Section 2 and/or Section 4.

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 2,005 mg/kg Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Components:

Paraffin oils (petroleum), catalytic dewaxed heavy:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
GLP: yes
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.53 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: No information available.
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Remarks: Based on data from similar materials

sodium nitrite:

Acute oral toxicity : LD50 (Rat): 85 mg/kg
Remarks: Produces methemoglobin.

N-PHENYL-1-NAPHTHYLAMINE:

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

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

1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-ar-methyl-:

Acute oral toxicity : LD50 (Rat): 3,313 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Not classified based on available information.

Components:

Paraffin oils (petroleum), catalytic dewaxed heavy:

Species : Rabbit

Exposure time : 24 h
Result : No skin irritation
GLP : yes
Remarks : Based on data from similar materials

sodium nitrite:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

N-PHENYL-1-NAPHTHYLAMINE:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-ar-methyl-:

Species : Rabbit
Exposure time : 24 h
Result : Irritating to skin.

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Paraffin oils (petroleum), catalytic dewaxed heavy:

Species : Rabbit
Result : No eye irritation
GLP : yes
Remarks : Based on data from similar materials

sodium nitrite:

Species : Rabbit
Result : Irritating to eyes.
Method : OECD Test Guideline 405

N-PHENYL-1-NAPHTHYLAMINE:

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405

1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-ar-methyl-:

Species : Rabbit
Result : No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

Paraffin oils (petroleum), catalytic dewaxed heavy:

Test Type	:	Buehler Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.
GLP	:	yes
Remarks	:	Based on data from similar materials

N-PHENYL-1-NAPHTHYLAMINE:

Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	May cause sensitisation by skin contact.

1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-ar-methyl-:

Exposure routes	:	Dermal
Species	:	Guinea pig
Result	:	May cause sensitisation by skin contact.

Germ cell mutagenicity

Not classified based on available information.

Components:

Paraffin oils (petroleum), catalytic dewaxed heavy:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with metabolic activation
Result: negative
GLP: No information available.
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Result: negative
GLP: no
Remarks: Based on data from similar materials

Genotoxicity in vivo : Species: Mouse (male and female)
Cell type: Bone marrow
Application Route: Intraperitoneal
Method: OECD Test Guideline 474
Result: negative
GLP: No information available.
Remarks: Based on data from similar materials

Carcinogenicity

May cause cancer.

Components:

Paraffin oils (petroleum), catalytic dewaxed heavy:

Species	:	Mouse, female
Application Route	:	Dermal
Exposure time	:	78 weeks
Frequency of Treatment	:	various
Result	:	negative
GLP	:	No information available.
Remarks	:	Based on data from similar materials

Carcinogenicity - Assessment : Classified based on DMSO extract content < 3% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note L)

Crystalline Quartz Silica:

Result : Excessive exposure to airborne crystalline silica can cause fibrotic lung damage, with scarring of the lungs with cough and shortness of breath. This is called "Silicosis". This is generally a slowly developing fibrotic disease as symptoms are usually delayed for 10 years or more. Symptoms are dyspnea, chest pain, breathlessness, and cough. The chronic lung scarring developed from the silica dust causes a progressive massive fibrosis. This may lead to increased susceptibility to tuberculosis.

IARC	Group 1: Carcinogenic to humans Crystalline Quartz Silica (Silica dust, crystalline)	 14808-60-7
OSHA	OSHA specifically regulated carcinogen Crystalline Quartz Silica	 14808-60-7

(crystalline silica)

NTP	Known to be human carcinogen Crystalline Quartz Silica (Silica, Crystalline (Respirable Size))	14808-60-7

Reproductive toxicity

Not classified based on available information.

Components:

Paraffin oils (petroleum), catalytic dewaxed heavy:

Effects on fertility	:	Species: Rat, male and female Application Route: Oral Fertility: NOAEL: >= 1,000 mg/kg bw/day Early Embryonic Development: NOAEL: >= 1,000 mg/kg bw/day Method: OECD Test Guideline 421 GLP: yes Remarks: Based on data from similar materials
Effects on foetal development	:	Species: Rat, male and female Application Route: Oral General Toxicity Maternal: NOAEL: >= 5,000 mg/kg bw/day Developmental Toxicity: NOAEL: >= 5,000 mg/kg bw/day GLP: No information available. Remarks: Based on data from similar materials

1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-ar-methyl-:

Effects on fertility	:	General Toxicity - Parent: NOAEL: 45 mg/kg body weight Fertility: NOAEL: 150 mg/kg body weight Early Embryonic Development: NOAEL: 45 mg/kg body weight

STOT - single exposure

May cause respiratory irritation.
May cause damage to organs (Blood).

Components:

Paraffin oils (petroleum), catalytic dewaxed heavy:

Assessment	:	May cause respiratory irritation.

N-PHENYL-1-NAPHTHYLAMINE:

Target Organs	:	Blood
Assessment	:	May cause damage to organs.

STOT - repeated exposure

May cause damage to organs (Kidney) through prolonged or repeated exposure.

Components:

N-PHENYL-1-NAPHTHYLAMINE:

Target Organs	:	Kidney
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Crystalline Quartz Silica:

Exposure routes	:	Inhalation
Target Organs	:	Lungs
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Paraffin oils (petroleum), catalytic dewaxed heavy:

Species	:	Rat, male
LOAEL	:	125 mg/kg
Application Route	:	Oral
Exposure time	:	13 Weeks
Number of exposures	:	5 days/week
Dose	:	0, 125, 500 mg/kg bw/day
GLP	:	No information available.
Remarks	:	Based on data from similar materials

Species	:	Rat, male and female
NOAEL	:	>= 980 mg/m³
Application Route	:	Inhalation
Exposure time	:	4 Weeks
GLP	:	No information available.
Remarks	:	Based on data from similar materials

Species	:	Rat, male and female
NOAEL	:	>= 2,000 mg/kg
Application Route	:	Dermal
Exposure time	:	13 Weeks
Number of exposures	:	5 days/week
Method	:	OECD Test Guideline 411
GLP	:	No information available.
Remarks	:	Based on data from similar materials

1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-ar-methyl-:

Species	:	Rat
NOAEL	:	45 mg/kg
Application Route	:	Oral

Aspiration toxicity

Not classified based on available information.

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:

Paraffin oils (petroleum), catalytic dewaxed heavy:

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l
End point: mortality
Exposure time: 96 h
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes
Remarks: (WAF)

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 10,000 mg/l
End point: Immobilization
Exposure time: 48 h
Analytical monitoring: no
GLP: No information available.
Remarks: Based on data from similar materials
(WAF)

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
End point: Growth rate
Exposure time: 72 h
Method: OECD Test Guideline 203
GLP: yes
Remarks: (WAF)

NOELR (Pseudokirchneriella subcapitata (green algae)): >

100 mg/l
End point: Growth rate
Exposure time: 72 h
Method: OECD Test Guideline 203
GLP: yes
Remarks: (WAF)

Toxicity to fish (Chronic toxicity) : NOELR (Oncorhynchus mykiss (rainbow trout)): >= 1,000 mg/l
End point: mortality
Exposure time: 28 d
Method: calculated
GLP: no
Remarks: The value is calculated

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEL (Daphnia magna (Water flea)): 10 mg/l
End point: Reproduction
Exposure time: 21 d
GLP: yes
Remarks: water extractable fraction

sodium nitrite:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.54 - 26.3 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 15.4 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Cyprinus carpio (Carp)): 21 mg/l
Exposure time: 29 Days
Method: OECD Test Guideline 210
Remarks: Fresh water

Toxicity to microorganisms : EC50 (activated sludge): > 210 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

N-PHENYL-1-NAPHTHYLAMINE:

Toxicity to fish : EL50 (Oncorhynchus mykiss (rainbow trout)): 0.44 mg/l
Exposure time: 96 h

NOEC (Oncorhynchus mykiss (rainbow trout)): 0.34 mg/l

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 0.38 mg/l
Exposure time: 48 h

NOEC (Daphnia magna (Water flea)): 0.38 mg/l

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 0.25 mg/l
Exposure time: 72 h

EC50 (Green algae (Scenedesmus subspicatus)): > 0.2 mg/l
Exposure time: 75 h

NOEC (Green algae (Scenedesmus subspicatus)): 0.2 mg/l

Toxicity to microorganisms : EC50 (activated sludge): 1,000 mg/l
Exposure time: 3 h

1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-ar-methyl-:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1.3 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC10 (Daphnia magna (Water flea)): 1.93 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 0.976 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

EC10 (Desmodesmus subspicatus (green algae)): 0.658 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (Bacteria): 13 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Persistence and degradability

Product:

Biodegradability : Result: No data available

Components:

sodium nitrite:

Biodegradability : Result: The methods for determining the biological degradability are not applicable to inorganic substances.

N-PHENYL-1-NAPHTHYLAMINE:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0 %
Method: OECD Test Guideline 301C

1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-ar-methyl-:

Biodegradability : Concentration: 20 mg/l
Result: Readily biodegradable.
Biodegradation: 94.4 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

N-PHENYL-1-NAPHTHYLAMINE:

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

Mobility in soil

No data available

Other adverse effects

Product:

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

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

RCRA - Resource Conservation and Recovery Authorization Act : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

Waste from residues : The generation of waste should be avoided or minimized wherever possible.
This material and its container must be disposed of in a safe way.
Empty containers retain product residue; observe all precautions for product.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Waste disposal should be in accordance with existing federal, state, provincial and/or local environmental controls.

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

SECTION 14. TRANSPORT INFORMATION

International Regulations

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
Remarks : Not dangerous cargo, Keep separated from foodstuffs

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
sodium nitrite	7632-00-0	100	2500
1-naphthylamine	134-32-7	100	*
2-naphthylamine (Solid)	91-59-8	10	*

*: Calculated RQ exceeds reasonably attainable upper limit.

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 : Respiratory or skin sensitisation
Specific target organ toxicity (single or repeated exposure)
Carcinogenicity

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

sodium nitrite 7632-00-0 >= 1 - < 5 %

US State Regulations

Massachusetts Right To Know

Paraffin oils (petroleum), catalytic dewaxed heavy	64742-70-7	70 - 90
molybdenum disulphide	1317-33-5	5 - 10

sodium nitrite	7632-00-0	1 - 5
graphite	7782-42-5	1 - 5
Crystalline Quartz Silica	14808-60-7	0.1 - 1
aniline	62-53-3	< 0.01
1-naphthylamine	134-32-7	< 0.001

Pennsylvania Right To Know

Paraffin oils (petroleum), catalytic dewaxed heavy	64742-70-7	70 - 90
Proprietary ammonium compound	Trade Secret	> 1
Proprietary Component	Trade Secret	> 1
molybdenum disulphide	1317-33-5	5 - 10
sodium nitrite	7632-00-0	1 - 5
graphite	7782-42-5	1 - 5
Proprietary Barium Compounds	Trade Secret	<= 0.5

California Prop. 65

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

TSCA inventory

TSCA : All substances listed as active on the TSCA inventory, This product is subject under TSCA 5(a) to Significant New Use Restrictions (SNUR).

TSCA list

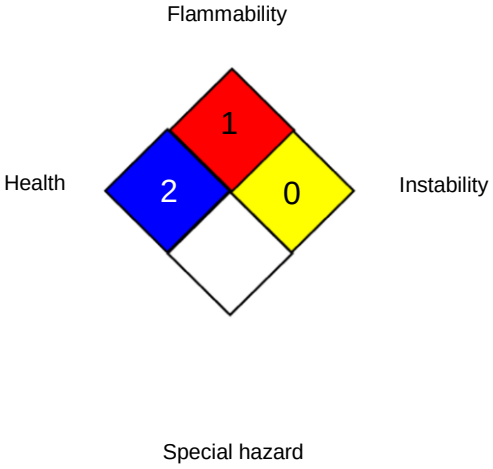
The following substance(s) is/are subject to a Significant New Use Rule:
sodium nitrite 7632-00-0

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

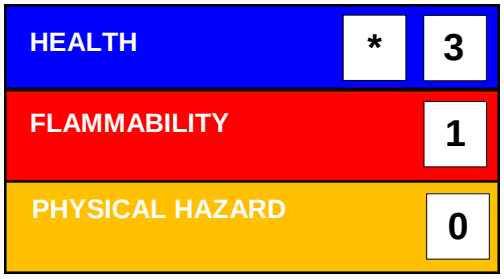
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
OSHA CARC	:	OSHA Specifically Regulated Chemicals/Carcinogens
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
OSHA CARC / PEL	:	Permissible exposure limit (PEL)
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 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 Associa-

tion; 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

Revision Date : 09/22/2020

The data contained in this Safety Data Sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. 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 to be a guidance for processing and does not contain any 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. It is the responsibility of the recipient of the product to ensure that any proprietary rights and existing laws and legislation are observed.