SAFETY DATA SHEET

ROYCO 43 SAE-AMS-G-4343

Version	Revision Date:	SDS Number:	Date of last issue: 10/12/2018
1.9	01/18/2019	400000001759	Date of first issue: 12/05/2014

SECTION 1. IDENTIFICATION

Product name: ROYCO 43 SAE-AMS-G-4343

(SAE-AMS-G-4343) PNEUMATIC SYSTEMS GREASE
MEETS THE LATEST REVISION

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 : None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Short-term (acute) aquatic hazard : Category 3

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard statements : H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P273 Avoid release to the environment.

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)
lithium 12-hydroxystearate	7620-77-1	>= 10 - < 20
calcium bis(dinonylnaphthalenesulphonate)	57855-77-3	>= 1 - < 5
NJTS#: 46728100000-0002 - Proprietary amine		>= 0.25 - < 1
lithium 12-hydroxystearate	7620-77-1	>= 10 - < 20
calcium bis(dinonylnaphthalenesulphonate)	57855-77-3	>= 1 - < 5
N-1-naphthylaniline	90-30-2	>= 0.25 - < 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)
Dry chemical
Dry sand
Extinguishing media - large fires

Foam
Water mist

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire-fighting : 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.

Further information : Cool containers/tanks with water spray.

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 : 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.

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
Contains no substances with occupational exposure limit values.				
1-Decene, tetramer, mixed	68649-12-7	TWA (Mist)	5 mg/m3	OSHA Z-1

with 1-decene trimer, hydro-genated				
		TWA (Mist)	5 mg/m3	NIOSH REL
		ST (Mist)	10 mg/m3	NIOSH REL
		TWA (Mist)	5 mg/m3	OSHA P0
lithium stearate	4485-12-5	TWA (Inhal-able fraction)	10 mg/m3	ACGIH
		TWA (Res-pirable frac-tion)	3 mg/m3	ACGIH
lithium 12-hydroxystearate	7620-77-1	TWA (Inhal-able fraction)	10 mg/m3	ACGIH
		TWA (Res-pirable frac-tion)	3 mg/m3	ACGIH
N-1-naphthylaniline	90-30-2	TWA	10 ml/m3	ACGIH

Personal protective equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

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 : 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

Colour : tan

Odour : mild, hydrocarbon-like

Odour Threshold : No data available

pH : No data available

Melting point/range : No data available

No data available

Boiling point/boiling range : No data available

		No data available
Flash point	:	> 392 °F / 200 °C Method: open cup No data available
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 No data available
Relative vapour density	:	No data available
Relative density	:	0.8 No data available
Solubility(ies)		
Water solubility	:	negligible
Solubility in other solvents	:	partly soluble No data available
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

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

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Hazardous polymerisation does not occur.
Conditions to avoid	:	Contamination
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	Carbon oxides Metal oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Skin contact
Eye contact

Acute toxicity

Components:

calcium bis(dinonylnaphthalenesulphonate):

Acute oral toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: > 15 mg/l Test atmosphere: dust/mist Method: Expert judgement
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg

NJTS#: 46728100000-0002 - Proprietary amine:

Acute oral toxicity	:	LD50 (Rat): 1,625 mg/kg
Acute dermal toxicity	:	LD50 Dermal (Rabbit): > 5,000 mg/kg

calcium bis(dinonylnaphthalenesulphonate):

Acute oral toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: > 15 mg/l Test atmosphere: dust/mist Method: Expert judgement
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg

N-1-naphthylaniline:

Acute oral toxicity	:	LD50 (Rat): 1,625 mg/kg
Acute dermal toxicity	:	LD50 Dermal (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation

Components:

calcium bis(dinonylnaphthalenesulphonate):

Species	:	Rabbit
Result	:	Irritating to skin.
Remarks	:	see user defined free text

NJTS#: 46728100000-0002 - Proprietary amine:

Species	:	Rabbit
Method	:	Draize Test
Result	:	No skin irritation

calcium bis(dinonylnaphthalenesulphonate):

Species	:	Rabbit
Result	:	Irritating to skin.
Remarks	:	see user defined free text

N-1-naphthylaniline:

Species	:	Rabbit
Method	:	Draize Test
Result	:	No skin irritation

Serious eye damage/eye irritation

Components:

calcium bis(dinonylnaphthalenesulphonate):

Species	:	Rabbit
Result	:	Irritating to eyes.

NJTS#: 46728100000-0002 - Proprietary amine:

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

calcium bis(dinonylnaphthalenesulphonate):

Species	:	Rabbit
Result	:	Irritating to eyes.

N-1-naphthylaniline:

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

Respiratory or skin sensitisation

Components:

calcium bis(dinonylnaphthalenesulphonate):

Test Type	:	Patch Test
Species	:	Humans
Assessment	:	Did not cause sensitisation on laboratory animals.

NJTS#: 46728100000-0002 - Proprietary amine:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Result	:	Probability or evidence of low to moderate skin sensitisation rate in humans

Test Type	:	Patch Test
Species	:	Humans
Result	:	Probability or evidence of low to moderate skin sensitisation rate in humans

Test Type	:	Maximisation Test
Species	:	Guinea pig
Result	:	Probability or evidence of low to moderate skin sensitisation rate in humans

calcium bis(dinonylnaphthalenesulphonate):

Test Type	:	Patch Test
Species	:	Humans
Assessment	:	Did not cause sensitisation on laboratory animals.

N-1-naphthylaniline:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Result	:	Probability or evidence of low to moderate skin sensitisation rate in humans

Test Type	:	Patch Test
Species	:	Humans
Result	:	Probability or evidence of low to moderate skin sensitisation rate in humans

Test Type	:	Maximisation Test
Species	:	Guinea pig
Result	:	Probability or evidence of low to moderate skin sensitisation rate in humans

Germ cell mutagenicity

Components:

calcium bis(dinonylnaphthalenesulphonate):

Genotoxicity in vitro	:	Test Type: Ames test Result: negative

Remarks: Information given is based on data obtained from similar substances.

Germ cell mutagenicity - Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

NJTS#: 46728100000-0002 - Proprietary amine:

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Result: negative

Test Type: Chinese Hamster Ovary (CHO)
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo : Test Type: in vivo assay
Species: Mouse (male)
Result: negative

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects., Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

calcium bis(dinonylnaphthalenesulphonate):

Genotoxicity in vitro : Test Type: Ames test
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Germ cell mutagenicity - Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

N-1-naphthylaniline:

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Result: negative

Test Type: Chinese Hamster Ovary (CHO)
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo : Test Type: in vivo assay
Species: Mouse (male)
Result: negative

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects., Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Components:

NJTS#: 46728100000-0002 - Proprietary amine:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

N-1-naphthylaniline:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

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.

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:

NJTS#: 46728100000-0002 - Proprietary amine:

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

N-1-naphthylaniline:

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 : There is no data available for this product.

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

N-1-naphthylaniline:

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 aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.68 mg/l Exposure time: 48 h Test Type: semi-static test Analytical monitoring: yes
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to daphnia and other aquatic invertebrates (Chron-	:	NOEC (Daphnia magna (Water flea)): 0.02 mg/l Exposure time: 21 d

ic toxicity) 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:

lithium 12-hydroxystearate:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 30 mg/l
Result: Readily biodegradable.
Biodegradation: 78 %
Exposure time: 28 d

calcium bis(dinonylnaphthalenesulphonate):

Biodegradability : Result: According to the results of tests of biodegradability this product is not readily biodegradable.
Remarks: Information given is based on data obtained from similar substances.

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

lithium 12-hydroxystearate:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 30 mg/l
Result: Readily biodegradable.
Biodegradation: 78 %
Exposure time: 28 d

calcium bis(dinonylnaphthalenesulphonate):

Biodegradability : Result: According to the results of tests of biodegradability this product is not readily biodegradable.
Remarks: Information given is based on data obtained from similar substances.

N-1-naphthylaniline:

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:

lithium 12-hydroxystearate:

Partition coefficient: n-octanol/water : log Pow: 2.60

calcium bis(dinonylnaphthalenesulphonate):

Partition coefficient: n-octanol/water : log Pow: 10.96
Method: estimated

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

lithium 12-hydroxystearate:

Partition coefficient: n-octanol/water : log Pow: 2.60

calcium bis(dinonylnaphthalenesulphonate):

Partition coefficient: n-octanol/water : log Pow: 10.96
Method: estimated

N-1-naphthylaniline:

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

Mobility in soil

Product:

Mobility	:	Remarks: No data available

Other adverse effects

Product:

Results of PBT and vPvB assessment	:	This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	There is no data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

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

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)
1-naphthylamine	134-32-7	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
aniline	62-53-3	5000	*

*: 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 : No SARA Hazards

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act
This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

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.

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	:	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
TCSI	:	On the inventory, or in compliance with the inventory
US.TSCA	:	On TSCA Inventory

SECTION 16. OTHER INFORMATION

Further information

Other Emergency Phone Number

Latin America:	Brazil	+55 113 711 9144
	All other countries	+44 (0) 1235 239 670
Mexico:		+52 555 004 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
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

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 Har-

monized 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

Revision Date : 01/18/2019

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.

US / EN