

Cetane improver RX (RXSOL-70-7030-210)

MATERIAL SAFETY DATA SHEET • SALALAH CHEMICAL, OMAN

1. Product and Company Identification

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Product Name	: 2-Ethylhexyl nitrate
Part Number	: RXSOL-70-7030-210

Company Details:

RX MARINE INTERNATIONAL

105, A wing , BSEL , TECH PARK.

VASHI ,NEW BOMBAY 400703 INDIA

Branch : Kandla, Sikka, Dahej, Hazira, JNPT, Goa, Mangalore, Cochin, Tuticorin, Chennai, Kakinada, Vizag, Paradip, Kolkata, UAE, Singapore.

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2. Composition / Information on ingredients

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Name of Substance	Cas Number	E
Cetane improver RX	27247-96-7	2

3. Hazards Identification

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Classification according to Regulation (EC) No 1272/2008	Acute toxicity, Oral (Category 4), H302 Acute toxicity, Inhalation (Category 4), H332 Acute toxicity, Dermal (Category 4), H312 Long-term (chronic) aquatic hazard (Category 2), H411 For the full text of the H-Statements mentioned in this Section, see Section 16.
Labelling according to Regulation (EC) No 1272/2008	Pictogram Signal Word Warning
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled.
H411	Toxic to aquatic life with long lasting effects.
P261	Avoid breathing mist or vapors
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing.
P301 + P312	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P302 + P352 + P312	IF ON SKIN: Wash with plenty of water.Call a POISON CENTER/ doctor if you feel unwell.

P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
Supplemental Hazard information (EU) EUH044	Risk of explosion if heated under confinement.
EUH066	Repeated exposure may cause skin dryness or cracking.
Reduced Labeling (= 125ml)	Pictogram Signal Word Warning
Hazard statement(s)	none
Precautionary statement(s)	none
Supplemental Hazard information (EU) EUH044	Risk of explosion if heated under confinement.
EUH066	Repeated exposure may cause skin dryness or cracking
Other hazards	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Toxicological information: Aldrich- 293784 Page 3 of 12 The life science business of Merck operates as MilliporeSigma in the US and Canada The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

4. First Aid Measures

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General advice	Show this material safety data sheet to the doctor in attendance.
If inhaled	After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.
In case of skin contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
In case of eye contact	After eye contact: rinse out with plenty of water. Remove contact lenses.
If swallowed	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed	No data available

5. Fire-fighting Measures

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Suitable extinguishing media	Foam Carbon dioxide (CO2) Dry powder
Unsuitable extinguishing media	For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture	Carbon oxides Nitrogen oxides (NOx) Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire.
Advice for firefighters	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Further information	Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental Release Measures

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Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
Environmental Precaution	Do not let product enter drains.
Methods and materials for containment and cleaning up	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.
Reference to other sections	For disposal see section 13.

7. Handling and Storage

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Advice on safe handling	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.
Advice on protection against fire and explosion	Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
Hygiene measures	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.
Storage class	Storage class (TRGS 510): 10: Combustible liquids
Storage conditions	Tightly closed.
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. Exposure controls and personal protection

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Control parameters	Ingredients with workplace control parameters
Personal Protection	Eye protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses Body Protection : protective clothing Skin protection : required Respiratory protection : required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type ABEK The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure	Do not let product enter drains.
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Gloves



Suit

9. Physical and chemical properties

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Physical state	Liquid
Colour	Colourless to slightly Yellow
Odour	Acrid, slight odour of Sulphur dioxide
Meltingpoint/freezing point	No Data Available
Initial boiling point and boiling range	>100°C
Flammability (solid,gas)	No data available
Upper/lower flammability or explosive limits	No data available
Flash point	76,1 °C - Pensky-Martens closed cup - ASTM D 93

Autoignition temperature	215 °C at 1.013,25 hPa
Decomposition temperature	No data available
pH	No data available
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 1,7 mPa.s at 20 °C - ASTM D 445
Water solubility	0,0125 g/l at 20 °C - slightly soluble
Partition coefficient: n-octanol/water	log Pow: 5,24
Vapor pressure	No data available
Density 0,963 g/cm ³ at 25 °C - lit. Relative density	No data available
Relative vapordensity	No data available
Particle characteristics	No data available
Explosive properties	Risk of explosion if heated under confinement.
Oxidizing properties	none
Other safety information	No data available

10. Stability and reactivity

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Recativity	Forms explosive mixtures with air on intense heating. Risk of explosion if heated under confinement. A range from approx. 15 Kelvin below the flash point is to be rated as critical.
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions	No data available
Incompatible materials	Organic materials, Powdered metalsStrong oxidizing agents
Hazardous Decomposition	In the event of fire: see section 5
Condition to Avoid	Strong heating.

11. Toxicological information

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Acute toxicity	LD50 Oral - Rat - 960 mg/kg LC50 Inhalation - 4 h - 11 mg/l - vapor (Acute toxicity estimate)LD50 Dermal - 1.100 mg/kg
Skin corrosion/irritation	Skin - Rabbit Result: No skin irritation - 4 h(OECD Test Guideline 404)
Serious eye damage/eye irritation	No data available
Respiratory or skin sensitization	Maximization Test - Guinea pig Result: Does not cause skin sensitization. (OECD Test Guideline 406)
Germ cell mutagenicity	Test Type: Ames test Test system: S. typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative
Carcinogenicity	No data available

Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available
Endocrine disrupting propertiesProduct:	Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. RTECS: QU7925000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological information

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Toxicity	Toxicity to fish semi-static test LC50 - Danio rerio (zebra fish) - 2 mg/l - 96 h (OECD Test Guideline 203) Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - > 1.000 mg/l - 48 h (OECD Test Guideline 202) Toxicity to algae static test EC50 - Pseudokirchneriella subcapitata - 3,22 mg/l - 72 h (OECD Test Guideline 201) Toxicity to bacteria Growth inhibition EC50 - Sludge Treatment 20 - 1.000 mg/l - 3 h (OECD Test Guideline 209)
Persistence and degradability	Biodegradability aerobic - Exposure time 28 d Result: 0 % - Not readily biodegradable. (OECD Test Guideline 310)
Bioaccumulative potential	No data available
Mobility in soil	No data available
Results of PBT and vPvB assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Endocrine disrupting propertiesProduct:	Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Aldrich- 293784 Page 9 of 12 The life science business of Merck operates as MilliporeSigma in the US and Canada Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher
Other adverse effects	No data available

13. Disposal considerations

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Waste treatment methods	No data available
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14. Transport information

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UN number	ADR/RID: 3082 IMDG: 3082 IATA: 3082
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UN proper shipping name	ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Ethylhexyl nitrate)IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Ethylhexyl nitrate) IATA: Environmentally hazardous substance, liquid, n.o.s. (2-Ethylhexyl nitrate)
Transport hazard class(es)	ADR/RID: 9 IMDG: 9 IATA: 9
Packing group	
Packing group	ADR/RID: III IMDG: III IATA: III
Environmental hazards	
Environmental hazards	ADR/RID: yes IMDG Marine pollutant: yes IATA: yes
Special precautions for user	Tunnel restriction code : (-)
Further information	EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

15. Regulatory information

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Safety, health and environmental regulations/legislation specific for the substance or mixture	This material safety data sheet complies with the requirements of Regulation (EC) No 1907/2006.
National legislation	Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the reduction of major-accident hazards involving dangerous substances. E2 ENVIRONMENTAL HAZARD
Other regulations	Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC, stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work
Chemical safety assessment	For this product a chemical safety assessment was not carried out

16. Other information

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Other Information	The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Rx Marine International has been advised of the possibility of such damages. DISCLAIMER OF LIABILITY :The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.
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