Material Safety Data Sheet

N-Butanol (RXSOL-19-1571-210)

1. Product and Company Identifaction

Product Name	RXSOL-19-1571-210
Product Type	N-Butanol

Company Details:

RX MARINE INTERNATIONAL
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2. Composition / informationon ingredients

Chemical Name	CAS Number	EC Number	Index number
Butan-1-ol	71-36-3	200-751-6	603-004-00-6

3. Hazards Identification

Hazard description:
Information concerning particular hazards for human and environment:
R 10 Flammable.
R 22 Harmful if swallowed.
R 37/38 Irritating to respiratory system and skin.
R 41 Risk of serious damage to eyes.
R 67 Vapours may cause drowsiness and dizziness.

4. First Aid Measures

General information	Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
After inhalation	In case of unconsciousness place patient stably in side position for transportation.
After skin contact	Immediately wash with water and soap and rinse thoroughly.
After eye contact	Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing	Call for a doctor immediately.

5. Fire-fighting Measures

Suitable extinguishing agents:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: Water with full jet
Protective equipment: No special measures required.

6. Accidental Release Measures

Person-related safety precautions:Wear protective equipment. Keep unprotected persons away.
Measures for environmental protection: Do not allow to enter sewers/ surface or ground water.
Measures for cleaning/collecting: Dilute with plenty of water. Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.

7. Handling and Storage

Handling:
Information for safe handling: No special requirement
Information about fire - and explosion protection:
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Storage:
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: Keep container tightly sealed.

8. Exposure controls and personal protection

Additional information about design of technical facilities: No further data; see item 7.

Ingredients with limit values that require monitoring at the workplace:

71-36-3 butan-1-o

PEL (USA)	300 mg/m³, 100 ppm Short-term value: C 150 mg/m³, C 50 ppm
REL (USA)	Skin 61 mg/m³, 20 ppm
TLV (USA)	Short-term value: 154 mg/m³, 50 ppm
WEL (Great Britain)	Sk

Additional information: The lists valid during the making were used as basis.
Personal protective equipment:
General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work. Avoid contact with the skin. Avoid contact with the eyes and skin.
Respiratory protection: In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Protection of hands: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material:
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
Eye protection: Tightly sealed goggles

9. Physical and chemical properties

General Information

Form	Fluid
Colour	Colourless
Odour	Alcohol-like

Change in condition

Melting point/Melting range	-89°C
Boiling point/Boiling range	116-118°C
Flash point	35°C
Ignition temperature	340°C
Danger of explosion	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
Explosion limits:	
Lower	1.5 Vol %
Upper	9.4 Vol %
Vapour pressure at 20°C	6.7 hPa
Density at 20°C	0.81 g/cm³
Solubility in / Miscibility with water at 20°C	77 g/l
pH-value (70 g/l) at 20°C	7
Viscosity:	
Dynamic at 20°C	2.95 mPas

10. Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
Dangerous reactions No dangerous reactions known.
Dangerous decomposition products: No dangerous decomposition products known.

11. Toxicological information

Acute toxicity:

LD/LC50 values relevant for classification:

Oral	LD50	790 mg/kg (rat)
Dermal	LC50	3400 mg/kg (rabbit)
Inhalative	LC50/4 h	8000 mg/l (rat)

Primary irritant effect:

on the skin	Irritant to skin and mucous membranes.
on the eye	Strong irritant with the danger of severe eye injury.
Sensitization	No sensitizing effects known.

12. Ecological information

General notes: Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13. Disposal considerations

Product:
Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Uncleaned packaging: Recommendation: Disposal must be made according to official regulations.

14. Transport information

Land transport ADR/RID (cross-border)

ADR/RID class	3 Flammable liquids.
Danger code (Kemler)	30
UN-Number	1120
Packaging group	III
Hazard label	3
Description of goods	1120 BUTANOLS

Maritime transport IMDG

IMDG Class	3
UN Number	1120
Label	3
Packaging group	III
EMS Number	F-E,S-D
Marine pollutant	No
Proper shipping name	BUTANOLS

Air transport ICAO-TI and IATA-DGR

ICAO/IATA Class	3
UN/ID Number	1120
Label	3
Packaging group	III
Proper shipping name	BUTANOLS

15. Regulatory information

• Labelling according to EU guidelines:
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.
• Risk phrases:
10 Flammable.
22 Harmful if swallowed.
37/38 Irritating to respiratory system and skin.
41 Risk of serious damage to eyes.
67 Vapours may cause drowsiness and dizziness.
• Safety phrases:
2 Keep out of the reach of children.
7/9 Keep container tightly closed and in a well-ventilated place.
13 Keep away from food, drink and animal feedingstuffs.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

16. Other information

This information is based on our present knowledge.However, this shall not constitute a guarantee for anys pecific product features and shall not establish a legally valid contractual relationship.

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