MATERIAL SAFETY DATA SHEET

www.britiscientific.com **Issue Date:**

1- Chemical Product Information and Company Identification.

Product Name: : n-Propanol GC reference standard, AnStan®.
Synonym: : Propyl Alcohol.
Product code: : BS10106.
CAS Number: : 71-23-8.
Company Name: : Briti Scientific.
Company Address: : Plot No:78/B/13, SY-79,Phase-VI, Jeedimetla,Hyderabad-500 055. Telangana, India.

Section 2- Composition / Information on Ingredients.

CAS No.	Mol.wt	Chemical Name	Mol. Formula
71-23-8.	60.10 g/mol	1-propanol.	C_3H_8O

Section 3- Hazards Identification.

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2), H225
Serious eye damage (Category 1), H318 Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
For the full text of the H-Statements mentioned in this Section, see Section 16.

Label elements
Labelling according Regulation (EC) No 1272/2008

Signal word	Danger
Hazard statement(s)	
H225	Highly flammable liquid and vapor.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.
Precautionary statement(s)	
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

Other hazards
This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

Section 4- First Aid Measures.

Description of first-aid measures

General advice
Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Call in physician.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. 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

Indication of any immediate medical attention and special treatment needed
No data available

Section 5- Fire Fighting Measures.

Extinguishing media
Suitable extinguishing media
Carbon dioxide (CO2) Foam 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
Hydrogen chloride gas
Combustible.
Vapors are heavier than air and may spread along floors.
Risk of dust explosion.
Forms explosive mixtures with air at elevated temperatures.
Development of hazardous combustion gases or vapours possible in the event of fire
Advice for firefighters
In the event of fire, wear self-contained breathing apparatus.
Further information
Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6- Accidental Release Measures.

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.
Environmental precautions
Do not let product enter drains. Risk of explosion.
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.

Section 7- Handling and Storage.

Precautions for safe handling

Advice on safe handling

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

Change contaminated clothing. Wash hands after working with substance.

Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Storage class

Storage class (TRGS 510): 3: Flammable liquids

Section 8- Exposure Control/Personal Protection.

Control parameters

Ingredients with workplace control parameters

Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves

Full contact Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 480 min

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374

Splash contact
Material: Chloroprene
Minimum layer thickness: 0.65 mm
Break through time: 120 min

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepeneur 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. Risk of explosion.

Section 9- Physical and Chemical Properties.

Information on basic physical and chemical properties

a) Appearance	Form: liquid, clear Color: colorless
b) Odor	alcohol-like
c) Odor Threshold	2.6 ppm
d) pH	8.5 at 200 g/l at 20 °C
e) Melting point/freezing point	Melting point/range: -127 °C - lit.
f) Initial boiling point and boiling range	97 °C - lit.
g) Flash point	22 °C - closed cup
h) Evaporation rate	1
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 13.7 %(V) Lower explosion limit: 2.1 %(V)
k) Vapor pressure	19.3 hPa at 20 °C
l) Vapor density	2.07 - (Air = 1.0)
m)Relative density	0.804 g/cm³ at 25 °C
n) Water solubility	at 20 °C completely miscible
o) Partition coefficient: n-octanol/water	log Pow: 0.2 at 25 °C - Bioaccumulation is not expected.
p) Autoignition temperature	400 °C at 1.013,25 hPa
q) Decomposition temperature	No data available

r) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 2.21 mPa.s at 20 °C
s) Explosive properties	No data available
t) Oxidizing properties	No data available

Other safety information

Surface tension	23.45 mN/m at 20 °C
Relative vapor density	2.07 - (Air = 1.0)

Section 10- Stability and Reactivity.

Reactivity

Vapors may form explosive mixture with air.

Chemical

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

Exothermic reaction with:
Alkaline earth metals
alcoholates
Amines
Alkali metals
Release of:
Hydrogen
Violent reactions possible with:
Strong oxidizing agents

Conditions to avoid

Warming.

Incompatible materials

rubber, various plastics

Section 11- Toxicological Information.

Information on toxicological effects

Acute toxicity

No data available
Symptoms: Risk of aspiration upon vomiting., Aspiration may cause pulmonary edema and pneumonitis.
LC50 Inhalation - Rat - male and female - 4 h - > 33,8 mg/l
(OECD Test Guideline 403)
Symptoms: Possible damages:, mucosal irritations
LD50 Dermal - Rabbit - male - 4.032 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit
Result: No skin irritation
(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit
Result: Causes serious eye damage.
(OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test - Guinea pig
Result: negative
Remarks: (ECHA)
Patch test: - Human
Result: negative
Remarks: (IUCLID)

Germ cell mutagenicity

Ames test
Escherichia coli/Salmonella typhimurium
Result: negative In vitro mammalian cell gene mutation test
Chinese hamster ovary cells
Result: negative
Mutagenicity (mammal cell test): chromosome aberration.
Chinese hamster lung cells
Result: negative

Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness. - Central nervous system
Acute oral toxicity - Risk of aspiration upon vomiting., Aspiration may cause pulmonary edema and pneumonitis.
Acute inhalation toxicity - Possible damages:, mucosal irritations

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: UH8225000
Central nervous system depression, prolonged or repeated exposure can cause:, narcosis,

Skin irritation
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Systemic effects:
Headache, Vertigo, inebriation, Unconsciousness, narcosis
After uptake of large quantities: Coma
Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.

Section 12- Ecological Information.

Toxicity

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 4.555 mg/l - 96 h (OECD Test Guideline 203)

Persistence and degradability

Biodegradability	aerobic - Exposure time 20 d Result: 75 % - Readily biodegradable. Remarks: (ECHA)
Chemical Oxygen Demand (COD)	2.230 mg/g Remarks: (IUCLID)
Theoretical oxygen Demand	2.400 mg/g Remarks: (Lit.)

Bioaccumulative potential
The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.
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.
Other adverse effects

Additional ecological information	No data available

Section 13- Disposal Considerations.

Waste treatment methods

Product

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

Section 14- Transport Information.

UN number

ADR/RID: 1274 IMDG: 1274 IATA: 1274

UN proper shipping name

ADR/RID: n-PROPANOL

IMDG: n-PROPANOL

IATA: n-Propanol

Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

Packaging group

ADR/RID: II IMDG: II IATA: II

Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

Special precautions for user

No data available

Section 15- Regulatory Information.

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.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) :

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) :

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. P5c FLAMMABLE LIQUIDS

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

Section 16- Other Information.

Briti Scientific provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose