Elite Advanced Materials Sdn Bhd

SAFETY DATA SHEET

According to Regulation (EC) No 453/2010

SDS –NPA-0001
Version 1.3
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www.eamaterials.com

Section 1: IDENTIFICATION OF SUBSTANCE/ MIXTURE AND OF THE COMPANY

1.1 Product identifier

Product name : **N-Propanol**

Including product code : NPA011-2.5P, NPA011-3.8P.

1.2 Relevant identified uses of the substance or mixture

Identified uses : Laboratory chemicals, Manufacture of substances

Uses advised against : Not applicable

1.3 Details of the supplier of the safety datasheet

Company : Elite Advanced Materials Sdn Bhd
No 1, Jalan KPK 1/2, Kawasan Perindustrian
Kundang, 48020 Rawang, Selangor, Malaysia

E-mail address : enquiry@eamaterials.com

1.4 Emergency telephone number

Emergency : +60 3-60343766 (Local business hours only)

Section 2: HAZARDS INDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flammable liquids	Category 2
Eye Damage	Category 1
Specific target organ toxicity – single exposure	Category 3

2.2 Label elements

Labeling in compliance to Regulation (EC) No. 1272/2008 [CLP/GHS]

Hazard pictograms

GHS02

GHS05

GHS07

Signal word

Danger

Hazard statement

H225	Highly flammable liquid and vapour
H318	Causes serious eye damage
H336	May cause drowsiness or dizziness.

Precautionary statements

P210	Keep away from heat/ sparks/open flames/hot surfaces. — No smoking
P240	Ground/bond container and receiving equipment.
P280	Wear eye protection.

Response

P305 + P351+ P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P313	Get medical advice/ attention

Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

Not available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Synonyms	:	1-Propanol, n-Propyl Alcohol
Formula	:	C_3H_8O
Molecular Weight	:	60.10 g/mol
CAS-No.	:	71-23-8

Hazardous components according to Regulation (EC) No 1272/2008

Component	Identity	Classification Code	H-Code	Concentration (by wt)
n-Propanol	CAS-No.: 71-23-8	Flam. Liq. 2 Eye Dam. 1 STOT SE 3	H225 H318 H336	<=100 %

Section 4: FIRST AID MEASURES

4.1 Description of First Aid measures

General information

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water for at least 15 minutes. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and delayed symptoms and effects

Irritation and corrosion, Cough, respiratory paralysis, Shortness of breath, Drowsiness, Unconsciousness, narcosis, inebriation, Vertigo, somnolence, Headache, Coma.

Risk of serious damage to eyes.

4.3 Indication of any immediate medical attention and special treatment

Laxative: Sodium sulfate (1 tablespoon/1/4 l water).

Section 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Foam, Carbon dioxide (CO2), Dry powder.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Combustible.
Pay attention to flashback.
Vapours are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.
Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for fire-fighters

Wear full protective clothing and self-contained breathing apparatus if necessary. Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Furtherinformation

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

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, 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.

Advice for emergency responders:
Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and material 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.

6.4 Reference to other sections

Indications about waste treatment see section 13.

Section 7: HANDLING AND STORAGE

7.1 Precaution for safe handling

Advice on safe handling:
Observe label precautions.

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
Change contaminated clothing. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions:
Protected from light.
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.
Recommended storage temperature see product label.

7.3 Specific end use

No data available.

Section 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Component	ACGIH TLV (8 hr)	CAL/OSHA PEL (8 hr)	NIOSH REL (Up to 10 hr)
N-Propanol	TWA: 100 ppm STEL: 400 ppm	TWA: 200 ppm STEL: 250 ppm	TWA: 200 ppm STEL: 250 ppm

(OSHA)

8.2 Exposure control

Personal protection measures, such as personal protective equipment

Never eat, drink or smoke during handling the chemical. Ensure that there is adequate ventilation, especially in confined areas.

Eye/ face protection

Face shield and safety glasses is required during handling. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Discard of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact*

Material: Nitrile rubber
Minimum layer thickness: 0.4 mm
Break through time: 480 min
Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Splash contact*

Material: polychloroprene
Minimum layer thickness: 0.65 mm
Break through time: 120 min
Material tested: Camapren® (KCL 720 / Aldrich Z677388, Size M)

(Merck, 2018; Ver 1.4)

Body protection

Impervious clothing, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Section 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	:	Liquid

Color	:	Colorless
Odor	:	Alcohol-like
Ordor threshold	:	Not determined
pH - value	:	7 (at 200 g/ at 20°C)
Melting point / Range	:	-127 °C
Boiling point / Range	:	96.5 - 98 °C (at 1,013 hPa) Method: DIN 53171
Flash point	:	15 °C
Evaporation rate	:	No data available
Explosion limit – LEL	:	2.1 % (V)
Explosion limit - UEL	:	19.2 % (V)
Vapour pressure	:	43 hPa at 20 °C
Vapor density (air = 1)	:	2.1
Density	:	0.800 g/cm3 at 20 °C Method: DIN 51757
Bulk density	:	No data available
Solubility(ies)	:	No data available
Water solubility	:	at 20 °C miscible in all proportions
Partition coefficient: n-octanol/water	:	log Pow: 0.25 OECD Test Guideline 107 Bioaccumulation is not expected
Auto-ignition temperature	:	No data available
Decomposition temperature	:	Not determined
Viscosity	:	2.3 mPa.s at 20°C
Explosive properties	:	Not classified as explosive
Oxidising properties	:	None

(Merck, 2018; Ver 1.4)

9.2 Other information

Ignition temperature	:	360 °C Method: DIN 51794

Section 10 : STABILITY AND REACTIVITY

10.1 Reactivity

Vapours may form explosive mixture with air

Formation of peroxides possible

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

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

10.4 Conditions to avoid

Warming.

10.5 Incompatible materials

Rubber, various plastics, oils.

10.6 Hazardous decomposition products

No data available

Section 11 : TOXICOLOGY INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral	- 8000 mg/kg/7d bw	(Rat – Sprague Dawley)
LD50 Dermal	- 4032 mg/kg	(Rabbit)
LC50 Inhalation	- 13,548 ppm/4h	(Rat - Sprague Dawley)

(ECHA)

Skin corrosion/irritation

Method: OECD Guideline 404
Rabbit
No irritation

Serious eye damage/eye irritation

Method: OECD Guideline 405
Rabbit
Cause serious eye damage

Respiratory or skin sensitization

Guinea pig
Result: negative

Germ cell mutagenicity

Genotoxicity in vitro
Ames test
Escherichia coli/Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 471

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity – single exposure

Remarks: May cause drowsiness and dizziness.
Target Organs : Central nervous system.

Specific target organ toxicity – repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

Systemic effects:
Headache, Vertigo, inebriation, Unconsciousness, narcosis

After uptake of large quantities:
respiratory paralysis, Coma

Other dangerous properties cannot be excluded.
Handle in accordance with good industrial hygiene and safety practice.

Section 12 : ECOLOGY INFORMATION

12.1 Ecotoxicity

Toxicity to fish	LC50 –Pimephalespromelas- 46300 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna - 3644 mg/l - 48 h
Toxicity to algae	EC50 – Pseudokirchneriella subcapitata (green algae) – 9170 mg/l – 48 h
Toxicity to bacteria	IC50 – Activated sludge – 1000 mg/l – 3h

(Merck, 2018; Ver 1.4)

12.2 Persistence and degradability

Biodegradability	Result: 75 % - 20 d - Readily biodegradable Method: IUCLID
Ratio COD	2230 mg/g

(Merck, 2018; Ver 1.4)

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water
Log Pow: 0.25

(experimental)
(IUCLID) Bioaccumulation is not expected

12.4 Mobility in soil

No data available

12.5 Other adverse effects

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

12.6 Other adverse effects

Discharge into the environment must be avoided.

Section 13 : DISPOSAL CONSIDERATIONS

13.1 Waste treatment method

Product

Waste material must be disposed according to national and local regulations. Keep the chemicals in its specific waste container according to the waste classification.

According to Quality Environment Regulation (Scheduled Waste) 2005, waste need to be sent to designated premise for recycle, treatment or disposal. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

Section 14 : TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 1274	IMDG: 1274	IATA-DGR: 1274

14.2 UN proper shipping name

ADR/RID:	N-PROPANOL
IMDG:	N-PROPANOL
IATA-DGR:	N-PROPANOL

14.3 Transport hazard class(es)

ADR/RID: 3	IMDG: 3	IATA-DGR: 3

14.4 Packaging group

ADR/RID: II	IMDG: II	IATA-DGR: II

14.5 Environmental hazards

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

14.6 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

14.7 Special precautions for user

No data available

Section 15 : REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

All national and local regulations, including Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013, if applicable to the use, should be observed.

National legislation

Storage class 3

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

Section 16 : OTHER INFORMATION

This information is based on present level of our knowledge, however, this shall not constitute a guarantee product features and shall not establish a legally valid contractual relationship.

Abbreviations:

ADR : European agreement concerning the international carriage of dangerous goods by road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association

ICAO : International Civil Aviation Organization

RID : Regulations concerning the International Carriage of Dangerous goods by rail.

Notice to reader

The information contained in this Safety Data Sheet is based on the present state of knowledge and current national legislation. It provides guidance on health, safety and environmental aspects of the products and should not be construed as any guarantee of technical performance or suitability for particular application.

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