

Safety Data Sheet

According to Canadian HPR - WHMIS 2015

1. Identification

1.1. Product identifier

Code: **PROSEALNANO**
 Product name: **PROSEAL NANO**

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: **Protective for stones**

Identified Uses	Industrial	Professional	Consumer
ADHESIVE SYSTEM/TREATMENT FOR STONE SECTOR	✓	✓	-

1.3. Details of the supplier of the safety data sheet

Name: **TENAX SPA**
 Full address: **Via I Maggio, 226**
 District and Country: **37020 Volargne Italy (VR)**
 Tel.: **+39 045 6887593**
 Fax: **+39 045 6862456**

e-mail address of the competent person responsible for the Safety Data Sheet: **msds@tenax.it**

Supplier: **Tenax Usa**
7606 Whitehall Executive Center Drive Suite 400, 28273 Charlotte NC, US
 Tel. 001 7045831173 - Fax 001 7045833166
 info@tenaxusa.com

1.4. Emergency telephone number

For urgent inquiries refer to **24hrs:**

Manitoba Poison Centre 1-855-7POISON (1-855-776-4766)

BC Drug and Poison Information Centre (DPIC)
 1-800-567-8911 (toll free in BC)
 (604) 682-5050 (Greater Vancouver or outside of BC)

Centre antipoison du Québec 1-800-463-5060

IWK Regional Poison Centre
 1-800-565-8161 (within NS and PEI only)
 (902) 470-8161 (Halifax or outside NS, PEI)

Poison And Drug Information Services (PADIS)
 1-800-332-1414 (toll free in Alberta, Northwest Territories)
 1-866-454-1212 (toll free in Saskatchewan)
 (403) 944-1414 (in Calgary, outside of Alberta, or VOIP users)

Ontario Poison Centre 1-800-268-9017

2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in Canada's Hazardous Products Regulations (HPR) (WHMIS 2015). The product thus requires a safety datasheet.
 Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

2. Hazards identification ... / >>

Classification and Hazard Statement

Flammable liquid, category 2
Eye irritation, category 2
Specific target organ toxicity - single exposure, category 3

Highly flammable liquid and vapour.
Causes serious eye irritation.
May cause drowsiness or dizziness.

Hazard pictograms:



Signal words:

Danger

Hazard statements:

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements:

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing dust / fume / gas / mist / vapours / spray.
P242 Use non-sparking tools.
P280 Wear protective gloves / eye protection / face protection.
P271 Use only outdoors or in a well-ventilated area.
P264 Wash the hands thoroughly after handling.
P240 Ground and bond container and receiving equipment.
P243 Take action to prevent static discharges.
P241 Use explosion-proof [electrical / ventilating / lighting / . . .] equipment.

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.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P312 Call a POISON CENTRE / doctor / . . . if you feel unwell.
P304+P340 IF INHALED: remove person to fresh air and keep comfortable for breathing.
P370+P378 In case of fire: use CO₂, sand, powder to extinguish.

Storage:

P403+P235 Store in a well-ventilated place. Keep cool.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

P501 Dispose of contents / container according to applicable law.

2.2. Other hazards

Additional hazards

Repeated exposure may cause skin dryness or cracking.

3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification

x = Conc. % (w/w)

Classification:

N-BUTYL ACETATE

N-BUTYL ACETATE

CAS 123-86-4

49 ≤ x < 51

Flammable liquid, category 3 H226, Specific target organ toxicity - single exposure, category 3 H336

ETHYL ACETATE

ETHYL ACETATE

CAS 141-78-6

45 ≤ x < 47

Flammable liquid, category 2 H225, Eye irritation, category 2 H319, Specific target organ toxicity - single exposure, category 3 H336

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. First-aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Take off contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice.

Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

4.3. Indication of any immediate medical attention and special treatment needed

If symptoms occur, whether acute or delayed, consult a doctor.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

Combustion products: mainly COx.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2023

ETHANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH	-			1884	1000	
OSHA	USA	1900	1000			

8. Exposure controls/personal protection ... / >>

PROPAN-2-OL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH	-	492	200	983	400	
OSHA	USA	980	400			

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH	-	1441	400			
OEL	EU	734	200	1468	400	
OSHA	USA	1400	400			

N-BUTYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	241	50	723	150	
TLV-ACGIH	-		50		150	
OSHA	USA	710	150			

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

ETHYL ACETATE

Sampling method: https://amcaw.ifa.dguv.de/substance/methoden/050-ethyl_acetate_2016.pdf

N-BUTYL ACETATE

Sampling methods: https://amcaw.ifa.dguv.de/substance/methoden/037-n-butyl_acetate_2016.pdf

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must comply with current regulations.

HAND PROTECTION

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (OSHA 29 CFR 1910.138): compatibility, degradation, permeability time.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133, CSA Standard CAN/CSA-Z94.3-92).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose limit of use will be defined by the manufacturer (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134, CSA Standard Z94.4-02). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134, CSA Standard Z94.4-02.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

HAND PROTECTION: Protect hands with work gloves for protection from chemical agents in nitrile or fluoroelastomer (EN 374-1: 2016) at least type B or higher based on the risk assessment carried out by the company. Breakthrough time > 480 minutes.

Material thickness:

NITRILE

short contact > 0.38 mm

prolonged contact > 0.55 mm

FLUOROELASTOMER

short contact > 0.50 mm
 prolonged contact > 1.50 mm

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	colourless	
Odour	characteristic	
Odour threshold	not available	
pH	not available	Reason for missing data: substance/mixture is non-polar/aprotic (eg: an organic solvent mixture)
Melting point / freezing point	not available	
Initial boiling point	> 35 °C (95 °F)	
Boiling range	not available	
Flash point	3 °C (37,4 °F)	Method: ASTM D93-20
Evaporation rate	not available	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Vapour pressure	not available	
Vapour density	not available	
Relative density	0.9 g/cm ³	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	not available	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
Viscosity	not available	
Explosive properties	not available	
Oxidising properties	not available	

9.2. Other information

VOC : 97,00 % - 824,50 g/litre

10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

N-BUTYL ACETATE

Decomposes on contact with: water.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals, hydrides, oleum. May react violently with: fluorine, strong oxidising agents, chlorosulphuric acid, potassium tert-butoxide. Forms explosive mixtures with: air.

N-BUTYL ACETATE

Risk of explosion on contact with: strong oxidising agents. May react dangerously with: alkaline hydroxides, potassium tert-butoxide. Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

10. Stability and reactivity ... / >>

ETHYL ACETATE

Avoid exposure to: light, sources of heat, naked flames.

N-BUTYL ACETATE

Avoid exposure to: moisture, sources of heat, naked flames.

10.5. Incompatible materials

ETHYL ACETATE

Incompatible with: acids, bases, strong oxidants, chlorosulphuric acid.

N-BUTYL ACETATE

Incompatible with: water, nitrates, strong oxidants, acids, alkalis, zinc.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

N-BUTYL ACETATE

WORKERS: inhalation; contact with the skin.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

N-BUTYL ACETATE

In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

Interactive effects

N-BUTYL ACETATE

A case of acute intoxication been reported involving a 33 year old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

ACUTE TOXICITY

ETHYL ACETATE

LD50 (Oral):	5620 mg/kg ratto
LD50 (Dermal):	> 20000 mg/kg coniglio
LC50 (Inhalation vapours):	> 6000 ppm/4h ratto

N-BUTYL ACETATE

LD50 (Oral):	> 6400 mg/kg Rat
LD50 (Dermal):	> 5000 mg/kg Rabbit
LC50 (Inhalation vapours):	21.1 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

11. Toxicological information ... / >>

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

Carcinogenicity Assessment:

64-17-5	ETHANOL
	ACGIH:: A3
	IARC:1
67-63-0	PROPAN-2-OL
	IARC:3

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

ETHYL ACETATE

LC50 - for Fish	230 mg/l/96h pimephales promelas
EC50 - for Crustacea	165 mg/l/48h daphnia

N-BUTYL ACETATE

LC50 - for Fish	18 mg/l/96h pimephales promelas
EC50 - for Crustacea	> 44 mg/l/48h daphnia
EC50 - for Algae / Aquatic Plants	675 mg/l/72h
Chronic NOEC for Crustacea	23 mg/l 21d

12.2. Persistence and degradability

ETHYL ACETATE

Solubility in water	> 10000 mg/l
Rapidly degradable	

N-BUTYL ACETATE

Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

12. Ecological information ... / >>

12.3. Bioaccumulative potential

ETHYL ACETATE

Partition coefficient: n-octanol/water 0.68

BCF 30

N-BUTYL ACETATE

Partition coefficient: n-octanol/water 2.3

BCF 15.3

12.4. Mobility in soil

N-BUTYL ACETATE

Partition coefficient: soil/water < 3

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: UN 1993

14.2. UN proper shipping name

ADR / RID: FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE; ETHANOL)

IMDG: FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE; ETHANOL)

IATA: FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE; ETHANOL)

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: II

16. Other information ... / >>

GENERAL BIBLIOGRAPHY:

- GHS rev. 5
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

- Hazard Products Regulation (HPR)
- WHMIS 2015
- ONTARIO R.R.O. 1990, Regulation 883 (version July 2016)
- IARC website
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the Canada's Hazardous Products Regulations (HPR) (WHMIS 2015), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.