

## Safety Data Sheet

According to Canadian HPR - WHMIS 2015

### 1. Identification

#### 1.1. Product identifier

Code: **ANTISLIP**  
 Product name: **ANTISLIP**

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

Intended use: **Anti-slip treatment for ceramic and water-based stoneware**

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

#### 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

Eye irritation, category 2  
Skin irritation, category 2

Causes serious eye irritation.  
Causes skin irritation.

Hazard pictograms:



Signal words: Warning

Hazard statements:

**H319** Causes serious eye irritation.  
**H315** Causes skin irritation.

Precautionary statements:

Prevention:

**P280** Wear protective gloves / eye protection / face protection.  
**P264** Wash the hands thoroughly after handling.

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.  
**P332+P313** If skin irritation occurs: Get medical advice / attention.  
**P337+P313** If eye irritation persists: Get medical advice / attention.  
**P362+P364** Take off contaminated clothing and wash it before reuse.

Storage: --

Disposal: --

### 2.2. Other hazards

Information not available

## 3. Composition/information on ingredients

### 3.2. Mixtures

Contains:

Identification	x = Conc. % (w/w)	Classification:
<b>AMMONIUM BIFLUORIDE</b>		
AMMONIUM BIFLUORIDE		
CAS 1341-49-7	2.5 ≤ x < 3	<b>Acute toxicity, category 3 H301, Skin corrosion, category 1B H314, Serious eye damage, category 1 H318</b>

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

#### 4. First-aid measures ... / >>

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

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

###### UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

##### 5.2. Special hazards arising from the substance or mixture

###### HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

Combustion products: nitrogen and fluorine compounds.

##### 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

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

### 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. 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

#### AMMONIUM BIFLUORIDE

##### Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
		mg/m3	ppm	
TLV-ACGIH	-	2.5		
OEL	EU	2.5		
OSHA	USA	2.5		
OSHA	USA	2.5		

Legend:

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

### 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 class must be chosen according to the limit of use concentration (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

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

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	yellow	
Odour	typical	
Odour threshold	not available	
pH	3-5	
Melting point / freezing point	not available	
Initial boiling point	not available	
Boiling range	not available	
Flash point	> 93 °C	(199,4 °F)
Evaporation rate	not available	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Vapour pressure	17.5	
Vapour density	not available	
Relative density	1 g/cm <sup>3</sup>	
Solubility	soluble 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

Information not available

### 10. Stability and reactivity

#### 10.1. Reactivity

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

**AMMONIUM BIFLUORIDE**

Decomposes at temperatures above 230°C/446°F.

#### 10.2. Chemical stability

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

#### 10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

**AMMONIUM BIFLUORIDE**

Risk of explosion on contact with: chlorine trifluoride, bromine trifluoride. May react dangerously with: acids.

#### 10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

**10. Stability and reactivity** ... / >>

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

AMMONIUM BIFLUORIDE

May develop: fluorine,hydrogen fluoride,ammonia,nitrogen gas.

**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

Information not available

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

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

AMMONIUM BIFLUORIDE  
LD50 (Oral):

130 mg/kg Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

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:

1341-49-7 AMMONIUM BIFLUORIDE  
ACGIH:: A4

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

**11. Toxicological information** ... / >>

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

Information not available

12.2. Persistence and degradability

AMMONIUM BIFLUORIDE

Solubility in water > 10000 mg/l  
Degradability: information not available

12.3. Bioaccumulative potential

AMMONIUM BIFLUORIDE

BCF 0.5

12.4. Mobility in soil

Information not available

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 3264

14.2. UN proper shipping name

ADR / RID: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (AMMONIUM BIFLUORIDE)  
IMDG: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (AMMONIUM BIFLUORIDE)  
IATA: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (AMMONIUM BIFLUORIDE)

### 14. Transport information ... / >>

#### 14.3. Transport hazard class(es)

ADR / RID:            Class: 8            Label: 8



IMDG:                Class: 8            Label: 8



IATA:                Class: 8            Label: 8



#### 14.4. Packing group

ADR / RID, IMDG, IATA:            III

#### 14.5. Environmental hazards

ADR / RID:            NO  
IMDG:                not marine pollutant  
IATA:                NO

#### 14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 80	Limited Quantities: 5 L	Tunnel restriction code: (E)
	Special provision: -		
IMDG:	EMS: F-A, S-B	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 856
	Passengers:	Maximum quantity: 5 L	Packaging instructions: 852
	Special provision:	A3, A803	

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

### 15. Regulatory information

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

Substances subject to the Rotterdam Convention:  
None

Canadian Regulatory Information

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR).

Safety Data Sheet according to WHMIS 2015.

Inventory Status of the contained substance/s.

All ingredients are listed in DSL.

### 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

<b>H301</b>	Toxic if swallowed.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	Causes skin irritation.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number



### 16. Other information ... / >>

- CE50: Effective concentration (required to induce a 50% effect)
- CLP: Regulation (EC) 1272/2008
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

#### 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.