



# Tenax Spa

## TeFill 1

Revision nr.1  
Dated 5/7/2015  
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## Safety data sheet according to U.S.A. Federal Hazcom 2012

### SECTION 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product name **TeFill 1**

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

Intended use **CYANOACRYLATE ADHESIVE.**

#### 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 (VR)**  
**Italy**  
Tel. **+39 045 6887593**  
Fax **+39 045 6862456**

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

Product distribution by **TENAX USA – 7606 Whitehall Executive Center Drive - Unit 400 - Charlotte NC 28273 Tel. +1 704-583-1173 - Tel: (800) 341 0432 - Fax +1 704-583-3166 - info@tenaxusa.com**

#### 1.4. Emergency telephone number

For urgent inquiries refer to **1-800-5355053 (1-352-323-3500 international)**

### SECTION 2. Hazards identification.

#### 2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). 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.

#### Classification and Hazard Statement.

Carcinogenicity, category 2  
Eye irritation, category 2  
Skin irritation, category 2  
Specific target organ toxicity - single exposure, category 3  
Skin sensitization, category 1

Suspected of causing cancer.  
Causes serious eye irritation.  
Causes skin irritation.  
May cause respiratory irritation.  
May cause an allergic skin reaction.

#### Hazard pictograms:



Signal words: **Warning**

#### Hazard statements:

**H351** Suspected of causing cancer.  
**H319** Causes serious eye irritation.  
**H315** Causes skin irritation.  
**H335** May cause respiratory irritation.  
**H317** May cause an allergic skin reaction.

#### Precautionary statements:

##### Prevention:

**P201** Obtain special instructions before use.  
**P202** Do not handle until all safety precautions have been read and understood.  
**P261** Avoid breathing dust / fume / gas / mist / vapours / spray.  
**P264** Wash . . . thoroughly after handling.  
**P271** Use only outdoors or in a well-ventilated area.  
**P272** Contaminated work clothing should not be allowed out of the workplace.



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### SECTION 2. Hazards identification. ... / >>

<b>P280</b>	Wear protective gloves / clothing and eye / face protection.
<b>Response:</b>	
<b>P302+P352</b>	IF ON SKIN: wash with plenty of water / . . .
<b>P304+P340</b>	IF INHALED: remove person to fresh air and keep comfortable for breathing.
<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P308+P313</b>	IF exposed or concerned: Get medical advice / attention.
<b>P312</b>	Call a POISON CENTER / doctor / . . . / if you feel unwell.
<b>P321</b>	Specific treatment (see . . . on this label).
<b>P333+P313</b>	If skin irritation or rash occurs: Get medical advice / attention.
<b>P337+P313</b>	If eye irritation persists: Get medical advice / attention.
<b>P362+P364</b>	Take off contaminated clothing and wash it before reuse.
<b>Storage:</b>	
<b>P403+P233</b>	Store in a well-ventilated place. Keep container tightly closed.
<b>P405</b>	Store locked up.
<b>Disposal:</b>	
<b>P501</b>	Dispose of contents / container according to applicable law.

#### 2.2. Other hazards.

The product is not classified as hazardous for environment pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).

### SECTION 3. Composition/information on ingredients.

#### 3.1. Substances.

Information not relevant.

#### 3.2. Mixtures.

Contains:

Identification.	Conc. %.	Classification:
<b>Ethyl-2-cyanoacrylate</b> CAS. 7085-85-0	50 - 100	Eye irritation, category 2 H319, Skin irritation, category 2 H315, Specific target organ toxicity - single exposure, category 3 H335
<b>HYDROQUINONE</b> CAS. 123-31-9	0.9 - 1	Carcinogenicity, category 2 H351, Germ cell mutagenicity, category 2 H341, Acute toxicity, category 4 H302, Serious eye damage, category 1 H318, Skin sensitization, category 1 H317, Hazardous to the aquatic environment, acute toxicity, category 1 H400 M=10

Note: Upper limit is not included into the range.  
The full wording of hazard (H) phrases is given in section 16 of the sheet.

### SECTION 4. First aid measures.

#### 4.1. Description of first aid measures.

**EYES:** Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.  
**SKIN:** Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.  
**INGESTION:** Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.  
**INHALATION:** Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

For symptoms and effects caused by the contained substances, see chap. 11.

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

Information not available.

### SECTION 5. Firefighting 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.



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### SECTION 5. Firefighting measures. ... / >>

#### 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).

### SECTION 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. Check incompatibility for container material in section 7. 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.

### SECTION 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.

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

#### 8.1. Control parameters.

Regulatory References:

USA	NIOSH-REL	NIOSH publication No. 2005-149, 3th printing, 2007.
USA	OSHA-PEL	Occupational Exposure Limits - Limits for Air Contaminants TABLE Z-1-1910.1000.
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).

#### Ethyl-2-cyanoacrylate

##### Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
CAL/OSHA	USA	1.02	0.2		

#### 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.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION



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

Protect hands with category III work gloves (OSHA 29 CFR 1910.138).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

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 II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

#### EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

#### 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). 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 and OSHA 29 CFR 1910.134.

#### ENVIRONMENTAL EXPOSURE CONTROLS.

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

### SECTION 9. Physical and chemical properties.

#### 9.1. Information on basic physical and chemical properties.

Appearance	liquid
Colour	Not available.
Odour	imperceptible
Odour threshold.	Not available.
pH.	Not available.
Melting point / freezing point.	Not available.
Initial boiling point.	Not available.
Boiling range.	Not available.
Flash point.	> 100 °C. (212 °F)
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	Not available.
Vapour density	Not available.
Relative density.	1.100 Kg/l
Solubility	Not available.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature.	Not available.
Decomposition temperature.	Not available.
Viscosity	>10 mm <sup>2</sup> /sec (DIN ISO Cup 3 mm)
Explosive properties	Not available.
Oxidising properties	Not available.

#### 9.2. Other information.

Information not available.

### SECTION 10. Stability and reactivity.

#### 10.1. Reactivity.

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

#### 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.

#### 10.4. Conditions to avoid.

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

#### 10.5. Incompatible materials.

Information not available.



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### SECTION 10. Stability and reactivity. ... / >>

#### 10.6. Hazardous decomposition products.

Information not available.

### SECTION 11. Toxicological information.

#### 11.1. Information on toxicological effects.

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.

This product must be handled carefully because of its possible carcinogenic effects. Anyway, currently available data do not allow us to comprehensively assess this product.

Acute effects: stinging eyes. Symptoms may include: rubescence, edema, pain and lachrymation. Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

Acute effects: contact with skin may cause: irritation, erythema, edema, dryness and chapped skin. Ingestion may cause health disorders, including stomach pain and sting, nausea and sickness.

Acute effects: inhalation of this product may irritate the lower and upper respiratory tract and cause cough and respiratory disorders; at higher concentrations it can also cause pulmonary edema. Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

Upon contact with skin, this product causes sensitization (dermatitis). Dermatitis derives from skin irritation on the areas which repeatedly come into contact with the sensitizing agent. Cutaneous lesions may include: erythemas, edemas, papules, vesicles, pustules, scurvies, ulcerations and exudative phenomena, whose intensity varies according to illness seriousness and affected areas. Erythemas, edemas and exudative phenomena prevail during the acute phase. Scurfy skin, dryness, ulcerations and skin thickening prevail during the chronic phase.

#### HYDROQUINONE

LD50 (Oral). 302 mg/kg Rat  
LD50 (Dermal). > 900 mg/kg Rat

#### Carcinogenicity Assessment:

123-31-9 HYDROQUINONE  
ACGIH:: A3  
IARC:3

### SECTION 12. Ecological information.

No specific data are available for this product. Handle it according to good working practices. Avoid littering. Do not contaminate soil and waterways. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation. Please take all the proper measures to reduce harmful effects on aquifers.

#### 12.1. Toxicity.

#### HYDROQUINONE

LC50 - for Fish. 0.044 mg/l/96h Danio rerio  
EC50 - for Crustacea. 0.13 mg/l/48h Daphnia magna  
EC50 - for Algae / Aquatic Plants. 17 mg/l/72h Chlorococcales

#### 12.2. Persistence and degradability.

#### HYDROQUINONE

Solubility in water. > 10000 mg/l  
Rapidly biodegradable.

#### 12.3. Bioaccumulative potential.

#### HYDROQUINONE

Partition coefficient: n-octanol/water. 0.59  
BCF. 3.162

#### 12.4. Mobility in soil.

#### HYDROQUINONE

Partition coefficient: soil/water. 1.585



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### SECTION 12. Ecological information. ... / >>

#### 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 greater than 0,1%.

#### 12.6. Other adverse effects.

Information not available.

### SECTION 13. Disposal considerations.

#### 13.1. Waste treatment methods.

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

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.

### SECTION 14. Transport information.

#### 14.1. UN number.

Not applicable.

#### 14.2. UN proper shipping name.

Not applicable.

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

Not applicable.

#### 14.4. Packing group.

Not applicable.

#### 14.5. Environmental hazards.

Not applicable.

#### 14.6. Special precautions for user.

Not applicable.

#### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code.

Information not relevant.

### SECTION 15. Regulatory information.

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

U.S. Federal Regulations:

Clean Air Act Section 112(b):

123-31-9 HYDROQUINONE

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

Clean Air Act Section 602 Class II Substances:

No component(s) listed.

Clean Water Act – Priority Pollutants:

No component(s) listed.

Clean Water Act – Toxic Pollutants:



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### SECTION 15. Regulatory information. ... / >>

No component(s) listed.

DEA List I Chemicals (Precursor Chemicals):

No component(s) listed.

DEA List II Chemicals (Essential Chemicals):

No component(s) listed.

EPA List of Lists:

313 Category Code:

123-31-9 HYDROQUINONE

EPCRA 302 EHS TPQ:

123-31-9 HYDROQUINONE

EPCRA 304 EHS RQ:

123-31-9 HYDROQUINONE

CERCLA RQ:

123-31-9 HYDROQUINONE

EPCRA 313 TRI:

123-31-9 HYDROQUINONE

RCRA Code:

No component(s) listed.

CAA 112 (r) RMP TQ:

No component(s) listed.

State Regulations.

Massachusetts:

123-31-9 HYDROQUINONE

Minnesota:

123-31-9 HYDROQUINONE

New Jersey:

7085-85-0  
123-31-9 HYDROQUINONE

New York:

123-31-9 HYDROQUINONE

Pennsylvania:

123-31-9 HYDROQUINONE

California:

123-31-9 HYDROQUINONE

Proposition 65:

This product does not contain any substances know to the State of California to cause cancer, reproductive harm or birth defects.

International Regulations.

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Canadian WHMIS.

Information not available.



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### SECTION 16. Other information.

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

<b>Carc. 2</b>	Carcinogenicity, category 2
<b>Muta. 2</b>	Germ cell mutagenicity, category 2
<b>Eye Dam. 1</b>	Serious eye damage, category 1
<b>Eye Irrit. 2</b>	Eye irritation, category 2
<b>Skin Irrit. 2</b>	Skin irritation, category 2
<b>STOT SE 3</b>	Specific target organ toxicity - single exposure, category 3
<b>Skin Sens. 1</b>	Skin sensitization, category 1
<b>Aquatic Acute 1</b>	Hazardous to the aquatic environment, acute toxicity, category 1
<b>H351</b>	Suspected of causing cancer.
<b>H341</b>	Suspected of causing genetic defects.
<b>H318</b>	Causes serious eye damage.
<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	Causes skin irritation.
<b>H335</b>	May cause respiratory irritation.
<b>H317</b>	May cause an allergic skin reaction.
<b>H400</b>	Very toxic to aquatic life.

#### LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAA 112 @ RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112®)
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: EC Regulation 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
- EPA: US Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to Know Act
- EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
- EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- 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
- RCRA Code: Resource Conservation and Recovery Act Code
- REL: Recommended exposure limit
- 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.
- TSCA: Toxic Substances Control Act
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

#### GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- 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





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

- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112® of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

### 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.