

## Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

### 1. Identification

#### 1.1. Product identifier

Code: **MASTIDEKFAST\_CAR\_B**  
Product name: **MASTIDEK FAST CARTUCCIA PARTE B**

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

Intended use: **BICOMPONENT GLUE IN CARTRIDGE - PART B**

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 (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**  
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: **Infotrac**  
**US and Canada: 1-800-535-5053**  
**Int'l: 1-352-323-3500**  
**info@infotrac.net**

### 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

Acute toxicity, category 4	Harmful if inhaled.
Specific target organ toxicity - single exposure, category 3	May cause respiratory irritation.
Skin sensitization, category 1	May cause an allergic skin reaction.

##### Hazard pictograms:



Signal words: **Warning**

##### Hazard statements:

<b>H332</b>	Harmful if inhaled.
<b>H335</b>	May cause respiratory irritation.

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

**H317** May cause an allergic skin reaction.

Precautionary statements:

Prevention:

**P261** Avoid breathing dust / fume / gas / mist / vapours / spray.  
**P280** Wear protective gloves.  
**P271** Use only outdoors or in a well-ventilated area.  
**P272** Contaminated work clothing should not be allowed out of the workplace.

Response:

**P312** Call a POISON CENTER / doctor / . . . / if you feel unwell.  
**P333+P313** If skin irritation or rash occurs: Get medical advice / attention.  
**P304+P340** IF INHALED: remove person to fresh air and keep comfortable for breathing.  
**P302+P352** IF ON SKIN: wash with plenty of water / . . .  
**P363** Wash contaminated clothing before reuse.

Storage:

**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

Contains isocyanates. May produce an allergic reaction.

## 3. Composition/information on ingredients

### 3.2. Mixtures

Contains:

Identification

**x = Conc. %**

**Classification:**

**HDI oligomers, isocyanurate**

$98 \leq x < 100$

**Acute toxicity, category 4 H332, Specific target organ toxicity - single exposure, category 3 H335, Skin sensitization, category 1 H317**

EC 931-274-8  
CAS 28182-81-2  
REACH Reg. 01-2119485796-17

\* There is a batch 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

**EYES:** Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

**SKIN:** Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

**INHALATION:** Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

**INGESTION:** Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

**IF INHALED**

Avoid breathing mouth mouth. Use alternative systems, with preference for oxygen insufflation devices or compressed air.

If the breath is irregular or firm, practice artificial breathing and call a doctor immediately.

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

Exposure to concentrations of solvent vapors above the professional limit can harm health, causing irritations of the mucous membranes and the respiratory tract with adverse effects on the kidneys, on the liver and on the central nervous system. The symptoms include headache, sense of instability and staggering, fatigue, muscle asthenia, state of sleepiness and in extreme loss of knowledge. Solvents can cause some of the effects superimposed through skin absorption.

The contact of the liquid with the eyes can cause reversible irritation and damage.

The repeated or prolonged contact with the mixture can cause the removal of the natural fat of the skin, with consequent non -allergic dermatitis by contact and absorption through the skin. It is taken into account, where they are known, of the delayed and immediate effects, as well as the chronic effects of the components deriving from short and long -term exposure, orally and dermally, by inhalation and by

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

contact with the eyes.

On the basis of the properties of the components with Isocianati and considering the toxicological data on similar mixtures, this mixture can cause acute irritation and/or raising awareness of the respiratory system, with consequent condition of asthma, a frantic breath and feeling of chest oppression. Possible onset of asthma symptoms in sensitized people exposed to concentrations that are placed well below the professional exposure limit. Repeated exposure can cause chronic respiratory diseases. Repeated or prolonged contact with irritating agents can cause dermatitis.

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

Information not available

### 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.

Unsuitable extinction means:

Water jet

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

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

Do not breathe combustion products.

Dangerous combustion products:

Nitrogen oxides (NOX), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), cyanhydric acid (HCN), isocianato, pyrolysis products.

#### 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.

Avoid any contact with water. Store at temperatures between: 5 - 35 ° C.

### 7.3. Specific end use(s)

Information not available

## 8. Exposure controls/personal protection

### 8.1. Control parameters

Regulatory References:

USA	NIOSH-REL	NIOSH publication No. 2005-149, 3th printing, 2007.
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).
	TLV-ACGIH	ACGIH 2022

#### HEXAMETHYLENE-DI-ISOCYANATE

##### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH	-	0.034	0.005			
CAL/OSHA	USA	0.034	0.005			
NIOSH	USA	0.035	0.005	0.14 (C)	0.02 (C)	

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, 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 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).

#### 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, 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.

**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	transparent	
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	> 220 °C (428 °F)	
Boiling range	not available	
Flash point	228 °C (442,4 °F)	
Evaporation rate	not available	
Flammability	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	1.16 g/cm <sup>3</sup>	
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 explosive	
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.

### 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.

Dangerous reactions with water.

### 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

Keep away from: oxidant agents, strong alkali, strong acids, amines, alcohol, water. Exothermic reactions that are not controlled with amines and alcohol can occur.

### 10.6. Hazardous decomposition products

Information not available

## 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

HDI oligomers, isocyanurate  
Test Noael, Inhalation (Aerosol), Ratto 3.3 mg/m<sup>3</sup>, Oecd 413

#### 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

HDI oligomers, isocyanurate	
LD50 (Oral):	> 2500 mg/kg Rat
LD50 (Dermal):	> 2000 mg/kg Rat
LC50 (Inhalation mists/powders):	1.5 mg/l/4h

#### SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

HDI oligomers, isocyanurate  
Away: leather  
Species: rabbit  
Successful  
Source: Oecd 404

#### SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

HDI oligomers, isocyanurate  
Away: eyes  
Species: rabbit  
Outcome: negative  
Source: Oecd 405

#### RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

#### Respiratory sensitization

## 11. Toxicological information ... / >>

HDI oligomers, isocyanurate  
Away: inhalation  
Species: Pig of India  
Outcome: negative  
Source: Oecd 403

### Skin sensitization

HDI oligomers, isocyanurate  
Away: leather  
Species: Pig of India  
Successful  
Source: Oecd 406

### GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

### CARCINOGENICITY

Does not meet the classification criteria for this hazard class

### REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

### STOT - SINGLE EXPOSURE

May cause respiratory irritation

### 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

HDI oligomers, isocyanurate

LC50 - for Fish	> 100 mg/l/96h
EC50 - for Crustacea	127 mg/l/48h
EC50 - for Algae / Aquatic Plants	> 1000 mg/l/72h <i>Desmodesmus subspicatus</i>

### 12.2. Persistence and degradability

HDI oligomers, isocyanurate  
Test: oxygen consumption, 28 days, 1%, Oecd301D method

HDI oligomers, isocyanurate  
NOT rapidly degradable

### 12.3. Bioaccumulative potential

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

HDI oligomers, isocyanurate

Partition coefficient: n-octanol/water 554

BCF 367.7

### 12.4. Mobility in soil

HDI oligomers, isocyanurate

Partition coefficient: soil/water 7.3

### 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

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

### 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 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



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

##### U.S. Federal Regulations

##### TSCA:

All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory or are exempt from the listing / notification requirements.

##### Clean Air Act Section 112(b):

No component(s) listed.

##### 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:

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:

28182-81-2 HDI oligomers, isocyanurate (Diisocyanate)

##### EPCRA 302 EHS TPQ:

No component(s) listed.

##### EPCRA 304 EHS RQ:

No component(s) listed.

##### CERCLA RQ:

No component(s) listed.

##### EPCRA 313 TRI:

28182-81-2 HDI oligomers, isocyanurate (Diisocyanate)

##### RCRA Code:

No component(s) listed.

##### CAA 112 (r) RMP TQ:

No component(s) listed.

##### State Regulations

##### Massachusetts:

No component(s) listed.

##### Minnesota:

28182-81-2 HDI oligomers, isocyanurate (Diisocyanate)

##### New Jersey:

28182-81-2 HDI oligomers, isocyanurate (Diisocyanate)

28182-81-2 HDI oligomers, isocyanurate (Diisocyanate)

##### New York:

No component(s) listed.

##### Pennsylvania:

No component(s) listed.

##### California:

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

No component(s) listed.

Proposition 65:

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

International Regulations

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

### 16. Other information

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

<b>H332</b>	Harmful if inhaled.
<b>H335</b>	May cause respiratory irritation.
<b>H317</b>	May cause an allergic skin reaction.

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
- ATE: Acute Toxicity Estimate
- CAA 112 @ RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112@)
- CAS: 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: Regulation (EC) 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
- REACH: Regulation (EC) 1907/2006
- 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: 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. 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
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

### 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.

#### CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

#### Changes to previous review:

The following sections were modified:

01 / 02 / 03 / 04 / 05 / 07 / 08 / 09 / 10 / 11 / 12 / 15 / 16.