



# Safety data sheet

## 1. Substance/preparation and company identification

Trade name:

ASTI-V 170 B-Komp.

Application of the substance/ the preparation:

Polyurethane component

BEIL

Kunststoffproduktions- und Handelsgesellschaft mbH

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## 2. Hazards Identification

### 2.1. Classification of the substance or mixture According to Regulation (EC) No 1272/2008 [CLP]

Acute Tox. 4 (Inhalation - vapour)

Eye Dam./Irrit. 2

Skin Corr./Irrit. 2

STOT SE 3 (irritating to respiratory system)

Skin Sens. 1

Resp. Sens. 1

Carc. 2

STOT RE 2 (Inhalation - vapour)

H315, H317, H319, H332, H334, H335, H351, H373

For the classifications not written out in full in this section the full text can be found in section 16.

### 2.2. Label elements

Globally Harmonized System, EU (GHS)

Pictogram:



Signal Word: Danger

Hazard Statement:

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated inhalative exposure.

Precautionary Statements (Prevention):

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P285 In case of inadequate ventilation wear respiratory protection.

Precautionary Statements (Response):

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

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

Precautionary Statements (Storage):

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

Precautionary Statements (Disposal):

P501 Dispose of contents/container to hazardous or special waste collectionpoint.

Labeling of special preparations (GHS):

Contains isocyanates. May produce an allergic reaction.

According to Regulation (EC) No 1272/2008 [CLP]

Hazard determining component(s) for labelling: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

### 2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

No specific dangers known, if the regulations/notes for storage and handling are considered.

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## 3. Composition/Information on Ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

#### Chemical nature

Preparation based on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

#### Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

Content (W/W):  $\geq 10\%$  -  $\leq 99\%$

CAS Number: 9016-87-9

Acute Tox. 4 (Inhalation - vapour)

Eye Dam./Irrit. 2

Skin Corr./Irrit. 2

STOT SE 3 (irr. to respiratory syst.)

Skin Sens. 1

Resp. Sens. 1

Carc. 2

STOT RE 2 (Inhalation - vapour)

H315, H317, H319, H332, H334, H335, H351, H373

EUH204

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

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## 4. First-Aid Measures

### 4.1. Description of first aid measures

Remove contaminated clothing immediately and clean before re-use or dispose it if necessary.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

After contact with skin, wash immediately with plenty of water. Consult a doctor if skin irritation persists.

On contact with eyes:



Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink plenty of water, do not induce vomiting, seek medical attention.

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

Symptoms: tightness in the chest, coughing, difficulty breathing

Hazards: Symptoms can appear later.

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

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary edema.

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### **5. Fire-Fighting Measures**

#### **5.1. Extinguishing media**

Suitable extinguishing media:

dry powder, carbon dioxide, alcohol-resistant foam, water spray

Unsuitable extinguishing media for safety reasons:

water jet

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

Carbon dioxide, carbon monoxide, hydrogen cyanide; hydrocyanic acid, nitrogen oxides, isocyanate.

The substances/groups of substances mentioned can be released in case of fire.

#### **5.3. Advice for fire-fighters**

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information: Keep containers cool by spraying with water if exposed to fire. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

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### **6. Accidental Release Measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective clothing. Information regarding personal protective measures see, section 8.

Ensure adequate ventilation. Use breathing apparatus if exposed to vapours/dust/aerosol.

#### **6.2. Environmental precautions**

Do not empty into drains. Do not discharge into the subsoil/soil.

#### **6.3. Methods and material for containment and cleaning up**

For large amounts: Pump off product.

For residues: Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder). Dispose of absorbed material in accordance with regulations.

Neutralize with a solution of 5 - 10 % Sodium carbonate, 0,2 - 2 % detergents and 90 - 95 % water.

#### **6.4. Reference to other sections**

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

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### **7. Handling and Storage**

#### **7.1. Precautions for safe handling**

Provide suitable exhaust ventilation at the processing machines. Ensure thorough ventilation of stores and work areas. Avoid aerosol formation. When handling heated product, vapours of the product should be ventilated, and respiratory protection used. Wear respiratory protection when spraying.

Danger of bursting when sealed gastight. Protect against moisture. Clean up contamination as soon as they occur. Provide basic employee training to prevent/minimize exposures. Products freshly manufactured from isocyanates can contain incompletely reacted isocyanates and other dangerous substances, e.g. primary aromatic amines. Industrial cleaning with aprotic polar solvents (meeting the IUPAC definition) may lead to formation of hazardous primary aromatic amine (>0,1%). See Section 11.

Protection against fire and explosion:



No special precautions necessary.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep away from water. Segregate from foods and animal feeds. Segregate from acids and bases. Suitable materials for containers: carbon steel (iron), High density polyethylene (HDPE), Low density polyethylene (LDPE), tin (tinplate), Stainless steel 1.4301 (V2)

Storage stability:

Protect against moisture.

If moisture enters isocyanate containers, CO<sub>2</sub> forms and pressure builds up.

### 7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

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## 8. Exposure Controls/Personal Protection

### 8.1. Control parameters

PNEC

No PNEC value available.

DNEL

No DNELs have been derived.

### 8.2. Exposure controls

Personal protective equipment

Respiratory protection:

Respiratory protection in case of vapour/aerosol release. (Combination filter EN 14387 A-P2)

Hand protection:

Chemical resistant protective gloves (EN 374)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

butyl rubber (butyl) - 0.7 mm coating thickness

nitrile rubber (NBR) - 0.4 mm coating thickness

chloroprene rubber (CR) - 0.5 mm coating thickness

Unsuitable materials

polyvinylchloride (PVC) - 0.7 mm coating thickness

Polyethylene-Laminate (PE laminate) - ca. 0.1 mm coating thickness

Suitable materials that provide sufficient protection for industrial cleaning with aprotic polar solvents (meeting the IUPAC definition):

butyl rubber (butyl) - 0.7 mm coating thickness

nitrile rubber (NBR) - 0.4 mm coating thickness

chloroprene rubber (CR) - 0.5 mm coating thickness

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

safety shoes (e.g. according to EN 20346)

General safety and hygiene measures

Do not breathe vapour/spray. With products freshly manufactured from isocyanates body protection and chemical resistant protective gloves is recommended. Wearing of closed work clothing is required additionally to the stated personal protection equipment. No eating, drinking, smoking or tobacco use at the place of work. Take off immediately all contaminated clothing. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied.

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## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Form: liquid

Colour: brown

Odour: earthy, musty

Odour threshold: not applicable

pH value: not applicable



Boiling range: > 200 °C (1,013 mbar)  
Flash point: > 200 °C  
Evaporation rate: Value can be approximated from Henry's Law Constant or vapor pressure.  
Flammability: not flammable  
Lower explosion limit: For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.  
Ignition temperature: > 530 °C  
Vapour pressure: < 0.01 Pa (25 °C)  
Density: 1.21 g/cm<sup>3</sup> (20 °C)  
Relative vapour density (air): not applicable  
Solubility in water: Hydrolyzes to form water-insoluble compounds.  
Partitioning coefficient n-octanol/water (log Kow): not applicable  
Thermal decomposition: > 230 °C  
Viscosity, dynamic: 270 mPa.s (25 °C)  
Explosion hazard: not explosive  
Fire promoting properties: not fire-propagating

**9.2. Other information**

Miscibility with water: Reacts with water.  
Other Information: If necessary, information on other physical and chemical parameters is indicated in this section.

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**10. Stability and Reactivity**

**10.1. Reactivity**

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: No corrosive effect on metal.

**10.2. Chemical stability**

The product is stable if stored and handled as prescribed/indicated.

**10.3. Possibility of hazardous reactions**

**10.4. Conditions to avoid**

Temperature: < 15 °C

Avoid moisture.

**10.5. Incompatible materials**

Substances to avoid:

acids, alcohols, amines, water, alkalines

**10.6. Hazardous decomposition products**

No hazardous decomposition products if stored and handled as prescribed/indicated.

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**11. Toxicological Information**

**11.1. Information on toxicological effects**

Acute toxicity

Assessment of acute toxicity:

Of moderate toxicity after short-term inhalation. Virtually nontoxic after a single skin contact. Virtually nontoxic after a single ingestion.

Information on: P-MDI

Assessment of acute toxicity:

Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Of moderate toxicity after short-term inhalation.

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Information on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

Experimental/calculated data:

LC50 rat (by inhalation): approx. 0.493 mg/l 4 h  
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Irritation

Assessment of irritating effects:

Eye contact causes irritation. Skin contact causes irritation.



Information on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

Assessment of irritating effects:

Eye contact causes irritation. Skin contact causes irritation.

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Respiratory/Skin sensitization

Assessment of sensitization:

Sensitization after skin contact possible. The substance may cause sensitization of the respiratory tract.

Information on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

Assessment of sensitization:

The substance may cause sensitization of the respiratory tract. Sensitization after skin contact possible.

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Germ cell mutagenicity

Assessment of mutagenicity:

The chemical structure does not suggest a specific alert for such an effect.

Information on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

Assessment of mutagenicity:

The substance was mutagenic in various test systems with microorganisms and cell cultures; however, these results could not be confirmed in tests with mammals.

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Carcinogenicity

Assessment of carcinogenicity:

A carcinogenic effect cannot safely be ruled out.

Industrial cleaning with aprotic polar solvents (meeting the IUPAC definition) may lead to formation of hazardous primary aromatic amine (>0,1%). Primary aromatic amines are chemicals that are regarded as potentially carcinogenic for humans based on animal testing. Some of these chemicals are known human carcinogens. No adverse health effects are anticipated if recommended personal protective equipment and industrial hygiene practices are used.

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Reproductive toxicity

Assessment of reproduction toxicity:

The chemical structure does not suggest such an effect.

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Developmental toxicity

Assessment of teratogenicity:

The chemical structure does not suggest such an effect.

Information on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

Assessment of teratogenicity:

Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

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Specific target organ toxicity (single exposure)

Assessment of STOT single:

Causes temporary irritation of the respiratory tract.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Repeated inhalation exposure may affect certain organs. Repeated exposure to the substance by dermal administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by oral administration leads to effects similar to those found after single exposure.

Information on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

Assessment of repeated dose toxicity:

The substance may cause damage to the lung even after repeated inhalation of low doses, as shown in animal studies.

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Aspiration hazard



No aspiration hazard expected.

Other relevant toxicity information

The product has not been tested. The statement has been derived from the properties of the individual components.

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## 12. Ecological Information

### 12.1. Toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms.

Information on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms.

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Information on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

Toxicity to fish:

LC0 (96 h) > 1,000 mg/l, Fish (other)

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Information on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

Aquatic invertebrates:

EC0 (24 h) > 500 mg/l, daphnia (other)

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Information on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

Aquatic plants:

EC0 (72 h) 1,640 mg/l, Scenedesmus subspicatus (OECD Guideline 201)

### 12.2. Persistence and degradability

Assessment biodegradation and elimination (H<sub>2</sub>O):

Hydrolyzes to form water-insoluble compounds. Experience shows this product to be inert and non-degradable.

Information on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

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Information on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

Elimination information:

< 10 % BOD of the ThOD (28 d) (OECD Guideline 302 C) (aerobic, activated sludge) Under test conditions no biodegradation observed.

### 12.3. Bioaccumulative potential

Assessment bioaccumulation potential:

Does not significantly accumulate in organisms.

Information on: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)

Assessment bioaccumulation potential:

Does not significantly accumulate in organisms.

### 12.4. Mobility in soil

Assessment transport between environmental compartments:

Adsorption to solid soil phase is not expected.

### 12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria.

### 12.6. Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

### 12.7. Additional information

Adsorbable organically-bound halogen (AOX):

This product contains no organically-bound halogen.



Other ecotoxicological advice:  
Do not release untreated into natural waters. Do not allow to enter soil, waterways or waste water channels.

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### 13. Disposal Considerations

#### Waste treatment methods

Incinerate in suitable incineration plant, observing local authority regulations.  
Dispose of isocyanate waste in dry containers and never mix together with other wastes (reaction, dangerous pressure builds up).

Waste key:

08 05 01<sup>□</sup> waste isocyanates

Contaminated packaging:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

This material and its container must be disposed of in a safe way.

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### 14. Transport Information

#### Land transport

ADR Not classified as a dangerous good under transport regulations

RID Not classified as a dangerous good under transport regulations

#### Inland waterway transport

AND Not classified as a dangerous good under transport regulations

#### Sea transport

IMDG Not classified as a dangerous good under transport regulations

#### Air transport

IATA/ICAO Not classified as a dangerous good under transport regulations

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### 15. Regulatory Information

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

If it is intended to use materials for the manufacture of consumer goods (e. g. products which will come into contact with foodstuffs or with the skin, toys) or medical products, national and international regulations have to be observed. Where no regulations exist, consumer goods or medical products must at least comply with European legislation. We recommend contacting our Sales and our Product Safety departments.

#### 15.2. Chemical Safety Assessment

Assessment of safe use has been performed for the mixture and the result is documented in section 7 and 8 of the SDS

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### 16. Other Information

Full text of the classifications, including the hazard classes, the hazard symbols and the hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
Eye Dam./Irrit.	Serious eye damage/eye irritation
Skin Corr./Irrit.	Skin corrosion/irritation
STOT SE	Specific target organ toxicity — single exposure
Skin Sens.	Skin sensitization
Resp. Sens.	Respiratory sensitization
Carc.	Carcinogenicity
STOT RE	Specific target organ toxicity — repeated exposure
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.





H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated inhalative exposure.
EUH204	Contains isocyanates. May produce an allergic reaction.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.