

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

### 1.1 Product identifier

Trade name: Toolfusion® 3A

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

General use: Epoxy resin  
For industrial purposes only

### 1.3 Details of the supplier of the safety data sheet

Company name: AIRTECH EUROPE SARL

Street/POB-No.: Z.I. Haneboesch

Postal Code, city: 4562 Differdange  
Luxemburg

WWW: www.airtech.lu

E-mail: sales@airtech.lu

Telephone: +352-582282-1

Telefax: +352-584935

Dept. responsible for information:

Telephone: +352-582282-1, E-mail: sales@airtech.lu

### 1.4 Emergency telephone number

GIZ-Nord, Germany Telephone: +49 (0)551-19240

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC

Sens.; R43 May cause sensitization by skin contact.

### 2.2 Label elements

Labelling (67/548/EEC or 1999/45/EC)



irritant

R phrase(s):	R 43	May cause sensitization by skin contact.
S phrase(s):	S 2	Keep out of the reach of children.
	S 24	Avoid contact with skin.
	S 37	Wear suitable gloves.
	S 60	This material and its container must be disposed of as hazardous waste.

### Special labelling

Text for labelling: Contains 7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate.

### 2.3 Other hazards

No risks worthy of mention.

## SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

### 3.2 Mixtures

Hazardous ingredients:

Ingredient	Designation	Content	Classification
EINECS 219-207-4	7-Oxabicyclo[4.1.0]hept-3-ylmethyl	>= 70 %	EU: Sens.; R43.
CAS 2386-87-0	7-oxabicyclo[4.1.0]heptane-3-carboxylate		CLP: Skin Sens. 1; H317.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- In case of inhalation: Move victim to fresh air; if necessary, provide artificial respiration or oxygen. Seek medical attention.
- In case of skin contact: Contaminated/fouled clothing and shoes must be removed immediately. Immediately clean with water and soap followed by thorough rinsing. Seek medical treatment in case of troubles.
- After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently seek the immediate attention of an ophthalmologist.
- After swallowing: Rinse mouth with water. Consult physician immediately.

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

May cause an allergic skin reaction.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media:

Water fog, extinguishing powder, foam, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

High power water jet.

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

In case of fire may be liberated: Phenols, carbon monoxide and carbon dioxide.

Formation of numerous unknown compounds is possible.

### 5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained breathing apparatus.

Additional information:

Hazchem-Code: -

Move undamaged containers from immediate hazard area if it can be done safely.

Do not allow water used to extinguish fire to enter drains, ground or waterways. Treat runoff as hazardous.

## SECTION 6: Accidental release measures

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

Wear protective equipment. Keep away from unprotected people.

Provide adequate ventilation. Do not breathe vapour/aerosol.

Avoid contact with skin and eyes.

### 6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.

## 6.3 Methods and material for containment and cleaning up

Plug leak if safely possible.

Soak up with absorbent materials such as sand, siliceus earth, acid- or universal binder.

Store in special closed containers and dispose of according to ordinance.

In case of greater quantities: Collect mechanically (use only explosion-proof equipment when pumping out).

## 6.4 Reference to other sections

Refer additionally to chapter 8 and 13.

# SECTION 7: Handling and storage

## 7.1 Precautions for safe handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed.  
Wear protective equipment. Do not breathe vapour/aerosol.  
Avoid contact with skin and eyes.

## 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep container tightly closed in a cool, well-ventilated place.

Take care when re-opening already used containers.

Protect from heat and direct sunlight. Keep container dry.

Handle empty containers with care. Incineration may cause explosion.

Hints on joint storage: Do not store together with strong bases, oxidizing agents, strong acids or amines.

Storage class: 10 = Combustible liquids, unless storage class 3

## 7.3 Specific end use(s)

Epoxy resin

# SECTION 8: Exposure controls/personal protection

## 8.1 Control parameters

Additional information: Contains no substances with occupational exposure limit values.

## 8.2 Exposure controls

Provide adequate ventilation, and local exhaust as needed.

### Occupational exposure controls

Respiratory protection: When aerosols and vapours form: Use filter type A-P1 according to EN 14387.  
Or Wear self-contained breathing apparatus.

Hand protection: Protective gloves according to EN 374.  
Glove material: Neoprene.  
Breakthrough time: >480 min.  
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Wear suitable protective clothing.

General protection and hygiene measures:

Avoid contact with skin and eyes. Do not breathe vapour/aerosol.

When using do not eat, drink or smoke.

Wash hands before breaks and after work.

Work place should be equipped with a shower and an eye rinsing apparatus.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance:	Physical state: liquid Colour: black
Odour:	characteristic
Odour threshold:	no data available
pH value:	no data available
Melting point/freezing point:	no data available
Initial boiling point and boiling range:	> 250 °C
Flash point/flash point range:	202 °C
Evaporation rate:	no data available
Flammability:	no data available
Explosive properties:	no data available
Explosion limits:	no data available no data available
Vapour pressure:	no data available
Vapour density:	no data available
Density:	1.1 g/mL
Water solubility:	negligible
Partition coefficient: n-octanol/water:	no data available
Auto-ignition temperature:	no data available
Thermal decomposition:	no data available
Viscosity, dynamic:	no data available
Explosive properties:	no data available
Oxidizing characteristics:	no data available

### 9.2 Other information

Additional information: no data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Refer to chapter 10.3

### 10.2 Chemical stability

Product is stable under normal storage conditions.

### 10.3 Possibility of hazardous reactions

Avoid contact with: aliphatic amines: Polymerization along with heat production.

### 10.4 Conditions to avoid

Keep away from heat sources, sparks and open flames.  
Do not expose to high temperature. Danger of bursting and explosion.

### 10.5 Incompatible materials

Strong oxidizing agents, Lewis-acid or mineral acids and bases (organic and inorganic).

## 10.6 Hazardous decomposition products

Emits toxic fumes under fire conditions.

In case of fire may be liberated: phenols, carbon monoxide and carbon dioxide.

Formation of numerous unknown compounds is possible.

Thermal decomposition: no data available

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Toxicological effects: Acute toxicity (oral): Lack of data.  
Acute toxicity (dermal): Lack of data.  
Acute toxicity (inhalative): Lack of data.  
Skin corrosion/irritation: Lack of data.  
Eye damage/irritation: Lack of data.  
Sensitisation to the respiratory tract: Lack of data.  
Skin sensitisation: Skin Sens. 1; H317 = May cause an allergic skin reaction.  
Germ cell mutagenicity/Genotoxicity: Lack of data.  
Carcinogenicity: Lack of data.  
Reproductive toxicity: Lack of data.  
Effects on or via lactation: Lack of data.  
Specific target organ toxicity (single exposure): Lack of data.  
Specific target organ toxicity (repeated exposure): Lack of data.  
Aspiration hazard: Lack of data.

### Symptoms

In case of ingestion:

Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

After eye contact: Causes tears. Pain, redness.

## SECTION 12: Ecological information

### 12.1 Toxicity

### 12.2. Persistence and degradability

Further details: no data available

### 12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:  
no data available

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

no data available

### 12.6 Other adverse effects

General information: Do not allow to penetrate into soil, waterbodies or drains.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste key number: 08 04 09\* = Waste adhesives and sealants containing organic solvents or other dangerous substances  
MFSU = manufacture, formulation, supply and use  
\* = Evidence for disposal must be provided.

Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.

#### Contaminated packaging

Recommendation: Waste key number 150102: Plastic container  
Waste key number 150104: Packages of metal  
Empty carefully and completely, if possible.  
Dispose of waste according to applicable legislation.

## SECTION 14: Transport information

### 14.1 UN number

not applicable

### 14.2 UN proper shipping name

ADR/RID, IMDG, IATA: Not restricted

### 14.3 Transport hazard class(es)

not applicable

### 14.4 Packing group

not applicable

### 14.5 Environmental hazards

Marine pollutant: No

### 14.6 Special precautions for user

No dangerous good in sense of these transport regulations.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

## SECTION 15: Regulatory information

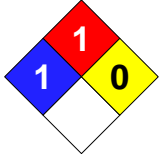
### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### National regulations - Great Britain

Hazchem-Code: -

**National regulations - USA**

Hazard rating systems:



NFPA Hazard Rating:

Health: 1 (Slight)

Fire: 1 (Slight)

Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 1 (Slight)

Flammability: 1 (Slight)

Physical Hazard: 0 (Minimal)

Personal Protection: X = Consult your supervisor

HEALTH	1
FLAMMABILITY	1
PHYSICAL HAZARD	0
	X

**15.2 Chemical Safety Assessment**

no data available

**SECTION 16: Other information****Further information**

Wording of the H-phrases under paragraph 2 and 3:

H317 = May cause an allergic skin reaction.

Wording of the R-phrases under paragraph 2 and 3:

R 43 = May cause sensitization by skin contact.

Reason of change:

Changes in section 2: classification, GHS

General revision

Date of first version:

22/04/2010

**Department issuing data sheet**

Contact person:

see section 1: Dept. responsible for information

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

This data sheet cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, and which additional precautions may be necessary. All health and safety information contained in this data sheet should be provided to your employees and customers. It is your responsibility to develop appropriate workplace instructions and training programmes for employees.

As the conditions and methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. The information supplied on this safety data sheet complies with our current level of knowledge as well as with national and EU regulations. All statements or suggestions are made without warranty, expressed or implied, regarding accuracy of information, the hazards connected with the use of the product or the results to be obtained from the use thereof.

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

### 1.1 Product identifier

Trade name: Toolfusion® 3B

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

General use: Modified Anhydride Curing Agent.  
For industrial purposes only.

### 1.3 Details of the supplier of the safety data sheet

Company name: AIRTECH EUROPE SARL

Street/POB-No.: Z.I. Haneboesch

Postal Code, city: 4562 Differdange  
Luxemburg

WWW: www.airtech.lu

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Dept. responsible for information:

Telephone: +352-582282-1, E-mail: sales@airtech.lu

### 1.4 Emergency telephone number

GIZ-Nord, Germany Telephone: +49 (0)551-19240

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Directive 67/548/EEC or 1999/45/EC

Xi; R41 Risk of serious damage to eyes.

Sens.; R42/43 May cause sensitization by inhalation and skin contact.

### 2.2 Label elements

#### Labelling (67/548/EEC or 1999/45/EC)



Xn

harmful

R phrase(s):	R 41	Risk of serious damage to eyes.
	R 42/43	May cause sensitization by inhalation and skin contact.
S phrase(s):	S 23	Do not breathe gas/fumes/vapour/spray.
	S 24	Avoid contact with skin.
	S 26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S 37/39	Wear suitable gloves and eye/face protection.
	S 45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
	S 60	This material and its container must be disposed of as hazardous waste.

### Special labelling

Text for labelling: contains Hexahydro-4-methylphthalic anhydride: SVHC



## 2.3 Other hazards

No risks worthy of mention.

## SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

### 3.2 Mixtures

Hazardous ingredients:

Ingredient	Designation	Content	Classification
EC No. 243-072-0 CAS 19438-60-9	Hexahydro-4-methylphthalic anhydride (SVHC)	97.8 - 100 %	EU: Xn; R 41, 42/43 CLP: Eye Dam. 1; H318. Resp. Sens. 1; H334. Skin Sens. 1; H317.

Additional information: This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH:  
Hexahydro-4-methylphthalic anhydride (EQC)

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

In case of inhalation: Move victim to fresh air; if necessary, provide artificial respiration or oxygen. Seek medical attention.

In case of skin contact: Immediately clean with water and soap followed by thorough rinsing. Take off immediately all contaminated clothing and wash it before reuse. In case of skin irritation, consult a physician.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently seek the immediate attention of an ophthalmologist.

After swallowing: Rinse mouth with water. Do not induce vomiting.  
Give affected person large quantities of water, better milk. Seek medical attention.  
Never give anything by mouth to an unconscious person.

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

May cause an allergic skin reaction.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
Causes serious eye damage.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media:

Water fog, foam, extinguishing powder, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

High power water jet.

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

Emits toxic fumes under fire conditions.  
In case of fire may be liberated: hydrocarbons, carbon monoxide and carbon dioxide.

### 5.3 Advice for firefighters

Special protective equipment for firefighters:

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

Additional information: Hazchem-Code: -

Seal off endangered area. Heating causes rise in pressure with risk of bursting. Cool endangered containers with water spray and, if possible, remove from danger zone. Fight fire from a safe distance. Stay upwind/keep distance from source.

## SECTION 6: Accidental release measures

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

Provide adequate ventilation. Avoid contact with skin, eyes, and clothing. Do not breathe vapour/aerosol. Wear protective equipment.

### 6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.

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

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents) and place in closed containers for disposal.

### 6.4 Reference to other sections

Refer additionally to section 8 and 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Avoid contact with skin, eyes, and clothing. Do not breathe vapour/aerosol. Wear protective equipment. When using do not eat, drink or smoke. Wash hands before breaks and after work.

Precautions against fire and explosion:

Keep away from heat sources, sparks and open flames.

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

Requirements for storerooms and containers:

Keep container tightly closed in a cool, well-ventilated place. Keep container dry. Do not drop, drag or bang the container. Protect from frost. Protect against direct sunlight.

Hints on joint storage: Keep away from food and drinks.

Storage class: 10 = Combustible liquids, unless storage class 3

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Additional information: Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

Provide good ventilation and/or an exhaust system in the work area.

**Personal protection equipment****Occupational exposure controls**

- Respiratory protection: If vapours form, use respiratory protection.  
Use filter type A (= against vapours of organic substances) according to EN 14387.
- Hand protection: Protective gloves according to EN 374.  
Glove material: Rubber.  
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.
- Eye protection: Tightly sealed goggles according to EN 166.
- Body protection: Wear suitable protective clothing.
- General protection and hygiene measures:  
Avoid contact with skin, eyes, and clothing. Do not breathe vapour/aerosol. Work place should be equipped with a shower and an eye rinsing apparatus. When using do not eat, drink or smoke. Wash hands before breaks and after work.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

- Appearance: Form: liquid  
Colour: colourless, clear
- Odour: characteristic
- Odour threshold: no data available
- pH value: no data available
- Melting point/freezing point: no data available
- Initial boiling point and boiling range: no data available
- Flash point/flash point range: 110 °C (Hexahydro-4-methylphthalic anhydride)
- Evaporation rate: no data available
- Flammability: no data available
- Explosive properties: no data available
- Explosion limits: no data available
- Vapour pressure: 5.7 hPa
- Vapour density: no data available
- Density: 1.16 g/mL
- Water solubility: Contact with water liberates acid.
- Partition coefficient: n-octanol/water: no data available
- Auto-ignition temperature: no data available
- Thermal decomposition: no data available
- Viscosity, dynamic: no data available
- Viscosity, kinematic: 90 - 110 mPa\*s
- Explosive properties: no data available
- Oxidizing characteristics: no data available

**9.2 Other information**

- Solid content:  $\geq 99 \%$

**SECTION 10: Stability and reactivity****10.1 Reactivity**

Contact with water liberates acid.

**10.2 Chemical stability**

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Hazardous polymerisation: Will not occur.

### 10.4 Conditions to avoid

Excessive heating, humidity. Keep away from heat sources, sparks and open flames.  
Avoid formation of aerosols/vapours.

### 10.5 Incompatible materials

Avoid contact with strong oxidizing agents and Water .

### 10.6 Hazardous decomposition products

In case of fire may be liberated: hydrocarbons, carbon monoxide and carbon dioxide.

Thermal decomposition: no data available

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Toxicological effects:

- Acute toxicity (oral): Lack of data.
- Acute toxicity (dermal): Lack of data.
- Acute toxicity (inhalative): Lack of data.
- Skin corrosion/irritation: Lack of data.
- Eye damage/irritation: Eye Dam. 1; H318 = Causes serious eye damage.
- Sensitisation to the respiratory tract: Resp. Sens. 1; H334 = May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin sensitisation: Skin Sens. 1; H317 = May cause an allergic skin reaction.
- Germ cell mutagenicity/Genotoxicity: Lack of data.
- Carcinogenicity: Lack of data.
- Reproductive toxicity: Lack of data.
- Effects on or via lactation: Lack of data.
- Specific target organ toxicity (single exposure): Lack of data.
- Specific target organ toxicity (repeated exposure): Lack of data.
- Aspiration hazard: Lack of data.

### Symptoms

In case of inhalation:  
Symptoms: Tickel in the throat, cough, wheezing, shortness of breath.  
After contact with skin: Upon direct contact with skin may cause itching and redness.

## SECTION 12: Ecological information

### 12.1 Toxicity

Further details: no data available

### 12.2. Persistence and degradability

Further details: no data available

### 12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:  
no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

no data available

**12.6 Other adverse effects**

General information: Do not allow to penetrate into soil, waterbodies or drains.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Waste key number: 07 07 04\* = Wastes from the MFSU of fine chemicals and chemical products not otherwise specified

\* = Evidence for disposal must be provided.

Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.

**Contaminated packaging**Recommendation: Waste key number 150102 - Plastic packaging  
Waste key number 150104 - Metallic packaging  
Dispose of waste according to applicable legislation.**SECTION 14: Transport information****14.1 UN number**

ADR/RID, IMDG, IATA: not applicable

**14.2 UN proper shipping name**

ADR/RID, IMDG, IATA: Not restricted

**14.3 Transport hazard class(es)**

ADR/RID, IMDG, IATA: not applicable

**14.4 Packing group**

ADR/RID, IMDG, IATA: not applicable

**14.5 Environmental hazards**

Marine pollutant: No

**14.6 Special precautions for user**

No dangerous good in sense of these transport regulations.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

no data available

## SECTION 15: Regulatory information

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

#### National regulations - Great Britain

Hazchem-Code: -

### 15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

## SECTION 16: Other information

### Further information

Wording of the H-phrases under paragraph 2 and 3:

H317 = May cause an allergic skin reaction.

H318 = Causes serious eye damage.

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

Wording of the R-phrases under section 2 and 3:

R 41 = Risk of serious damage to eyes.

R 42/43 = May cause sensitization by inhalation and skin contact.

Reason of change: Changes in section 3: information on ingredients  
General revision

### Department issuing data sheet

Contact person: see section 1: Dept. responsible for information

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

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