

1C B2 polyurethane foam

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

1.1. Product identifier

1C B2 polyurethane foam

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

Use of the substance/mixture

Adhesives, sealants

1.3. Details of the supplier of the safety data sheet

Company name:	HAGO Chemotechnik GmbH & Co. KG	
Street:	Bodenseestr. 217	
Place:	D-81243 München	
Telephone:	+49 (0)89 897702-0	
e-mail:	msds@hago.de	
Contact person:	Claudia Meyer-Pundsack	Telephone: -58
e-mail:	claudia.meyer-pundsack@hago.de	
Internet:	www.hago.de	
Responsible Department:	Dept. Development and Application	

1.4. Emergency telephone number: public emergency number
Giftnotruf Berlin 030-30686-790 (24 h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Indications of danger: F+ - Extremely flammable, Xn - Harmful, Xi - Irritant
 R phrases:
 Extremely flammable.
 Irritating to eyes, respiratory system and skin.
 Limited evidence of a carcinogenic effect.
 May cause sensitisation by inhalation and skin contact.
 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

GHS classification

Hazard categories:
 Aerosol: Aerosol 1
 Skin corrosion/irritation: Skin Irrit. 2
 Serious eye damage/eye irritation: Eye Irrit. 2
 Respiratory/skin sensitization: Resp. Sens. 1
 Respiratory/skin sensitization: Skin Sens. 1
 Carcinogenicity: Carc. 2
 Specific target organ toxicity - single exposure: STOT SE 3
 Specific target organ toxicity - repeated exposure: STOT RE 2
 Hazard Statements:
 Extremely flammable aerosol.
 Pressurised container: May burst if heated.
 Causes skin irritation.
 May cause an allergic skin reaction.
 Causes serious eye irritation.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause respiratory irritation.
 Suspected of causing cancer.
 May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

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Hazardous components which must be listed on the label

Diphenylmethanediisocyanate, isomers and homologues

Signal word:

Danger

Pictograms:

GHS02-GHS07-GHS08



Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
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 exposure.

Precautionary statements

P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P271	Use only outdoors or in a well-ventilated area.
P260	Do not breathe vapour/aerosol.
P251	Do not pierce or burn, even after use.
P211	Do not spray on an open flame or other ignition source.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P102	Keep out of reach of children.

Special labelling of certain mixtures

EUH204	Contains isocyanates. May produce an allergic reaction.
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2.3. Other hazards

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

Persons already sensitised to diisocyanates may develop allergic reactions when using this product.

Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
	Diphenylmethanediisocyanate, isomers and homologues	5 - < 20 %
9016-87-9	Carc. Cat. 3, Xn - Harmful, Xi - Irritant R40-20-48/20-36/37/38-42/43	
615-005-01-6	Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, Carc. 2, STOT SE 3, STOT RE 2; H332 H315 H319 H334 H317 H351 H335 H373	
237-158-7	Tris (2-Chloroisopropyl) Phosphate	10 - < 25 %
13674-84-5	Xn - Harmful R22	
	Acute Tox. 4; H302	
01-2119486772-26		
204-065-8	dimethyl ether	2.5 - < 10 %
115-10-6	F+ - Extremely flammable R12	
603-019-00-8	Flam. Gas 1; H220	
01-2119472128-37		
200-857-2	isobutane	2.5 - < 10 %
75-28-5	F+ - Extremely flammable R12	
601-004-00-0	Flam. Gas 1; H220	
200-827-9	propane	1 - < 10 %
74-98-6	F+ - Extremely flammable R12	
601-003-00-5	Flam. Gas 1; H220	

Full text of R and H phrases: see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Move victim out of danger zone. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Provide fresh air. In case of irregular breathing or respiratory arrest provide artificial respiration.

After contact with skin

After contact with skin, wash immediately with: Water and soap. In case of skin irritation, seek medical treatment.

After contact with eyes

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

After ingestion

Do NOT induce vomiting. Call a physician immediately.

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

Allergic reactions. May cause sensitization by inhalation and skin contact.
Danger of sticking eyes and skin due to curing foam.

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

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

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5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂). Foam. Extinguishing powder.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated: Carbon monoxide. Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

Hydrogen chloride (HCl). Hydrocyanic acid (hydrocyanic acid).

Vapours may form explosive mixtures with air.

5.3. Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Remove all sources of ignition.

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

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

Do not allow to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up

Provide adequate ventilation. Allow stiffening. Take up mechanically.

6.4. Reference to other sections

Treat the recovered material as prescribed in the section on waste disposal.

Handling, Personal protection equipment: See protective measures under point 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Provide adequate ventilation as well as local exhaust at critical locations. Do not use in enclosed rooms.

Advice on protection against fire and explosion

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking. Keep out of the reach of children. Vapours may form explosive mixtures with air. Take precautionary measures against static discharge.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep in a cool, well-ventilated place.

Advice on storage compatibility

Do not store together with: Oxidizing agents.

Further information on storage conditions

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Recommended storage temperature: 15 - 23 °C. Storage above 23 °C will reduce shelf life significantly, depending on temperature and duration.

7.3. Specific end use(s)

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not applicable

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
9016-87-9	Diphenylmethanediisocyanate, isomers and homologues		0,05		TWA (8 h)	AGW
					STEL (15 min)	AGW
115-10-6	Dimethyl ether	400	766		TWA (8 h)	WEL
		500	958		STEL (15 min)	WEL

8.2. Exposure controls

Appropriate engineering controls

Personal protective equipment has to be chosen in accordance with workplace specific conditions, e. g. concentration of the product. Chemical resistance has to be clarified with the supplier of protective equipment.

Protective and hygiene measures

Wash hands before breaks and after work. Do not eat, drink, smoke or sneeze at the workplace. Take off immediately all contaminated clothing.

Eye/face protection

Tightly sealed safety glasses.

Hand protection

Suitable material: Butyl rubber.

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Skin protection

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

Respiratory protection

Respiratory protection necessary at: insufficient ventilation.

Suitable respiratory protective equipment: gas filtering equipment (EN 141).

Environmental exposure controls

refer to chapter 7. No further action is necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Aerosol
 Colour: depending on type
 Odour: characteristic

Test method

pH-Value: not applicable

Changes in the physical state

Melting point: not applicable

Initial boiling point and boiling range: not applicable

Flash point: not applicable

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Explosive properties

In use, may form flammable/explosive vapour-air mixture.

Lower explosion limits:	1,5 vol. %
Upper explosion limits:	26,2 vol. %
Ignition temperature:	> 230 °C
Vapour pressure:	5500 - 6000 hPa
Density:	not determined
Water solubility:	practically insoluble
Partition coefficient:	not determined
Viscosity / dynamic:	not applicable
Viscosity / kinematic:	not applicable
Vapour density:	not determined
Evaporation rate:	not determined

9.2. Other information

none

SECTION 10: Stability and reactivity

10.1. Reactivity

There are no data available on the mixture itself.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Exothermic reactions with: Oxidizing agents, strong.
In use, may form flammable/explosive vapour-air mixture.

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not expose to temperatures above 50 °C. Heating causes rise in pressure with risk of bursting.

10.5. Incompatible materials

Exothermic reactions with: Oxidizing agents, strong.

10.6. Hazardous decomposition products

Hazardous decomposition products: Carbon monoxide. Carbon dioxide. Nitrogen oxides (NOx).
Hydrogen chloride (HCl). Hydrocyanic acid (hydrocyanic acid).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

There are no data available on the mixture itself.

Acute toxicity

Based on available data, the classification criteria are not met.

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Acute toxicity

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
9016-87-9	Diphenylmethanediisocyanate, isomers and homologues				
	oral	LD50	>10000 mg/kg	Rat	
	dermal	LD50	> 10000 mg/kg	Rabbit	
	inhalative vapour	ATE	11 mg/l		
	inhalative aerosol	ATE	1,5 mg/l		
13674-84-5	Tris (2-Chloroisopropyl) Phosphate				
	oral	LD50	630 - 2000 mg/kg	Rat	
	dermal	LD50	> 5000 mg/kg	Rabbit	
	inhalative (4 h) vapour	LC50	> 7 mg/l	Rat	
115-10-6	dimethyl ether				
	inhalative (4 h) gas	LC50	309 ppm	Rat	

Irritation and corrosivity

Causes skin irritation.
Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. (Diphenylmethanediisocyanate, isomers and homologues)
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
(Diphenylmethanediisocyanate, isomers and homologues)
Do not apply to the cured foam.

STOT-single exposure

May cause respiratory irritation. (Diphenylmethanediisocyanate, isomers and homologues)

Severe effects after repeated or prolonged exposure

May cause damage to organs through prolonged or repeated exposure.
(Diphenylmethanediisocyanate, isomers and homologues)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer. (Diphenylmethanediisocyanate, isomers and homologues)

Aspiration hazard

Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

There are no data available on the mixture itself.

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CAS No	Chemical name					
	Aquatic toxicity	Method	Dose	[h] [d]	Species	Source
9016-87-9	Diphenylmethanediisocyanate, isomers and homologues					
	Acute fish toxicity	LC50	> 1000 mg/l	96 h	Brachydanio rerio (zebra-fish)	
13674-84-5	Tris (2-Chloroisopropyl) Phosphate					
	Acute fish toxicity	LC50	56,2 mg/l	96 h		
	Acute algae toxicity	ErC50	82 mg/l	72 h		
	Acute crustacea toxicity	EC50	131 mg/l	48 h	Daphnia magna	
115-10-6	dimethyl ether					
	Acute fish toxicity	LC50	> 4,1 mg/l	96 h	Poecilia reticulata (Guppy)	
	Acute algae toxicity	ErC50	154,9 mg/l	96 h		
	Acute crustacea toxicity	EC50	> 4,4 mg/l	48 h	Daphnia magna (Big water flea)	

12.2. Persistence and degradability

There are no data available on the mixture itself.

CAS No	Chemical name				
	Method	Value	d	Source	
	Evaluation				
9016-87-9	Diphenylmethanediisocyanate, isomers and homologues				
	OECD 302C	< 10 %	28		
	Poorly biodegradable.				

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
13674-84-5	Tris (2-Chloroisopropyl) Phosphate	-2,68
115-10-6	dimethyl ether	0,1
75-28-5	isobutane	2,8
74-98-6	propane	2,36

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

There are no data available on the mixture itself.

12.6. Other adverse effects

none

Further information

According to the criteria of the European classification and labelling system, the substance/the product has not to be labelled as "dangerous for the environment".

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products

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160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances
Classified as hazardous waste.

Waste disposal number of used product

170203 CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES); wood, glass and plastic; plastic

Waste disposal number of contaminated packaging

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other dangerous substances
Classified as hazardous waste.

Contaminated packaging

In Germany: Taking back without additional costs by PU-Dosen-Recycling GmbH & Co. BetriebsKG (PDR), Am alten Sägewerk 3, D-95349 Thurnau. Order and pickup: phone 0800-7836736 or fax 0800-7836737.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
14.4. Packing group: -
Hazard label: 2.1



Classification code: 5F
Limited quantity: 1 L
Transport category: 2
Tunnel restriction code: D

Other applicable information (land transport)

Transport as "limited quantity" according to chapter 3.4 ADR/RID.

Inland waterways transport (ADN)

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
14.4. Packing group: -
Hazard label: 2.1



Classification code: 5F
Limited quantity: 1 L


Marine transport (IMDG)

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS

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14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
 Hazard label: 2.1



Marine pollutant: -
 Limited quantity: See SP277
 EmS: F-D, S-U

Air transport (ICAO)

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS, flammable
14.3. Transport hazard class(es): 2.1
 Hazard label: 2.1



Limited quantity Passenger: 30 kg G

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

see chapter 6 - 8

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

not relevant

SECTION 15: Regulatory information

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

EU regulatory information

1999/13/EC (VOC): (please refer to the manufacturer)

National regulatory information

Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.

Water contaminating class (D): - - not water contaminating

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

Section: 2, 11, 12, 13

Full text of R phrases referred to under Sections 2 and 3

- 12 Extremely flammable.
- 20 Harmful by inhalation.
- 22 Harmful if swallowed.
- 36/37/38 Irritating to eyes, respiratory system and skin.
- 40 Limited evidence of a carcinogenic effect.

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- 42/43 May cause sensitisation by inhalation and skin contact.
- 48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Full text of H statements referred to under Sections 2 and 3

- H220 Extremely flammable gas.
- H222 Extremely flammable aerosol.
- H229 Pressurised container: May burst if heated.
- H302 Harmful if swallowed.
- 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 exposure.

Further Information

Data sources: Data arise from reference works and literature.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)