according to Regulation (EC) No 1907/2006



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

1.1. Product identifier

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

Use of the substance/mixture

building material forming an insulating layer / intumescent material

molded article

Structural fire protection

1.3. Details of the supplier of the safety data sheet

Company name: FLAMRO Brandschutz-Systeme GmbH

Street: Am Sportplatz 2
Place: D-56291 Leiningen

Telephone: +49 (0) 6746 9410-0 Telefax: +49 (0) 6746 9410-10

e-mail: info@flamro.de

Responsible Department: Responsible for the safety data sheet: sds@gbk-ingelheim.de

1.4. Emergency telephone INTERNATIONAL: +49 (0) 6132 / 84463 (GBK GmbH, Ingelheim)

number: In England and Wales: 111, In Scotland: 111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

Not applicable. Article.

2.2. Label elements

Additional advice on labelling

Article. As an article the product does not need to be labelled in accordance with EC-regulations or respective national laws.

2.3. Other hazards

Note: This product is an "article" and is not an object that is required to issue Safety Data Sheets (SDS) by regulations concerning chemical substances. This SDS voluntarily offers helpful information for your safe handling and environmental care.

The classification has been omitted, because the danger does not exist in its present form.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Preparation with isocyanates

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Hazardous components

CAS No	Chemical name					
	EC No	Index No	REACH No			
	Classification according to Regulati	on (EC) No. 1272/2008 [CLP]	•			
9016-87-9	Diphenylmethanediisocyanate, isomers and homologues					
	Carc. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3, STOT RE 2; H351 H332 H315 H319 H334 H317 H335 H373					
110-63-4	Butane-1,4-diol					
	203-786-5		01-2119471849-20			
	Acute Tox. 4, STOT SE 3; H302 H336					
107-21-1	ethanediol, ethylene glycol			1 - < 5 %		
	203-473-3	603-027-00-1				
	Acute Tox. 4; H302					

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated soaked clothing immediately.

In the event of persistent symptoms receive medical treatment.

After inhalation

Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion.

Refer for medical treatment.

After contact with skin

In case of contact with skin wash off with soap and water.

Consult a doctor if skin irritation persists.

After contact with eyes

Rinse thoroughly with plenty of water, also under the eyelids.

In the event of persistent symptoms receive medical treatment.

After ingestion

Do not induce vomiting.

In the event of persistent symptoms receive medical treatment.

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

Health injuries are not known or expected under normal use.

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

Treat symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Product does not burn, fire-extinguishing activities according to surrounding.

5.2. Special hazards arising from the substance or mixture

Fire protection material

Health injuries are not known or expected under normal use.

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5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove persons to safety.

Avoid contact with the skin and the eyes.

6.2. Environmental precautions

Do not discharge into the drains/surface waters/ground water.

6.3. Methods and material for containment and cleaning up

Take up mechanically and collect in suitable container for disposal.

6.4. Reference to other sections

Information for disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

When using do not eat, drink or smoke.

"ZH 1/34 ""Data Sheet: Polyurethane manufacture / Isocyanate (M 044)"""

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

No special precautions required. Protect from heat and direct solar radiation. Keep from freezing.

Advice on storage compatibility

Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

building material forming an insulating layer / intumescent material molded article, Structural fire protection

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
107-21-1	Ethane-1,2-diol, vapour	20	52		TWA (8 h)	WEL
		40	104		STEL (15 min)	WEL

8.2. Exposure controls





Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

Protective and hygiene measures

Wash hands before breaks and immediately after handling the product.

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When using do not eat, drink or smoke.

Avoid contact with skin, eyes and clothing.

Eye/face protection

Tightly fitting goggles (EN 166).

Hand protection

Chemical-resistant gloves (EN 374). Safety gloves for the site (EN420, Cat. 1 or 2).

Follow the recommendations of the glove manufacturer for breakthrough properties especially for workplace conditions involving mechanical stress and contact duration.

Skin protection

Light protective clothing

Long sleeved clothing (EN 368).

Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment (gas filter type A) (EN 14387).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: molded article
Colour: anthracite Black

Odour: Neutral, Similar to plastik

Test method

Changes in the physical state

Explosive properties

None. Fire protection material.

Oxidizing properties

None. Fire protection material.

9.2. Other information

Weight loss due to heating: 52,0% - 64,5% (tested at 400°C for 30 minutes)

Foam factor: 8,5 - 20,0

SECTION 10: Stability and reactivity

10.1. Reactivity

Under influence of temperature intumescent building material.

10.2. Chemical stability

Chemically stable.

10.3. Possibility of hazardous reactions

No hazardous reactions known.

10.4. Conditions to avoid

No decomposition if stored and applied as directed.

10.5. Incompatible materials

No data available.

10.6. Hazardous decomposition products

Under normal atmospheric conditions no hazardous decomposition products known...

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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Toxicocinetics, metabolism and distribution

Health injuries are not known or expected under normal use.

Acute toxicity

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

ATEmix calculated

ATE (inhalative aerosol) 1,916 mg/l

CAS No	Chemical name							
	Exposure route	Dose		Species	Source	Method		
9016-87-9	Diphenylmethanediisocyanate, isomers and homologues							
	oral	LD50 mg/kg mg/	> 10000 kg	Rat	OECD 401			
	dermal	LD50 mg/kg	> 9400	Rabbit	OECD 402			
	inhalative vapour	ATE	11 mg/l					
	inhalative aerosol	ATE	1,5 mg/l					
110-63-4	Butane-1,4-diol							
	oral	LD50 mg/kg	1500	Rat				
	dermal	LD50 mg/kg	> 2000	Rat				
	inhalative vapour	LC50 mg/l	> 5,1	Rat				
107-21-1	ethanediol, ethylene gly	rcol						
	oral	LD50 mg/kg	5840	Rat				
	dermal	LD50 mg/kg	9530	Rabbit	GESTIS			

Irritation and corrosivity

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

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Further information

Classification in compliance with the assessment procedure specified in the EC guidelines 1999/45/EC.

SECTION 12: Ecological information

12.1. Toxicity

No data available.

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CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] [d]	Species	Source	Method
9016-87-9	Diphenylmethanediisocyanate, isomers and homologues						
	Acute fish toxicity	LC50 mg/l	> 1000	96 h	Brachydanio rerio	OECD 203	
	Acute algae toxicity	ErC50 mg/l	> 1640		Scenedesmus subspicatus	OECD 201	
	Acute crustacea toxicity	EC50 mg/l	> 1000	48 h	Daphnia magna	OECD 202	
110-63-4	Butane-1,4-diol						
	Acute fish toxicity	LC50 mg/l	> 30000	96 h	Pimephales promelas	OECD 203	
	Acute algae toxicity	ErC50 mg/l	> 500	72 h	Scenedesmus subspicatus		
	Acute crustacea toxicity	EC50	813 mg/l	48 h	Daphnia magna	OECD 202	
	Crustacea toxicity	NOEC mg/l	> 85	21 d	Daphnia magna	OECD 202	
107-21-1	ethanediol, ethylene glyco	ol					
	Acute fish toxicity	LC50 mg/l	40761	96 h	Oncorhynchus mykiss		
	Acute crustacea toxicity	EC50 mg/l	41100	48 h	Daphnia magna		

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
107-21-1	ethanediol, ethylene glycol	-1,36

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

Further information

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Do not discharge into the drains/surface waters/ground water. The waste code number must be agreed with the disposer / manufacturer / competent authority. Waste disposal according to local regulations.

Waste disposal number of waste from residues/unused products

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200128

MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); paint, inks, adhesives and resins other than those mentioned in 20 01 27

Contaminated packaging

Empty containers should be taken for local recycling, recovery or waste disposal.

SECTION 14: Transport information

14.1. UN number:No dangerous good in sense of this transport regulation.14.2. UN proper shipping name:No dangerous good in sense of this transport regulation.14.3. Transport hazard class(es):No dangerous good in sense of this transport regulation.14.4. Packing group:No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number:No dangerous good in sense of this transport regulation.14.2. UN proper shipping name:No dangerous good in sense of this transport regulation.14.3. Transport hazard class(es):No dangerous good in sense of this transport regulation.14.4. Packing group:No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number:No dangerous good in sense of this transport regulation.14.2. UN proper shipping name:No dangerous good in sense of this transport regulation.14.3. Transport hazard class(es):No dangerous good in sense of this transport regulation.14.4. Packing group:No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:No dangerous good in sense of this transport regulation.14.2. UN proper shipping name:No dangerous good in sense of this transport regulation.14.3. Transport hazard class(es):No dangerous good in sense of this transport regulation.14.4. Packing group:No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

$\underline{\textbf{15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture}$

EU regulatory information

2004/42/EC (VOC): 0 %

National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile

work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or

nursing mothers.

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Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

Update 2017

Abbreviations and acronyms

EC Directives: acts of the European Union, part of the secondary Union law

CAS-Nr.: Chemical Abstracts Service

TRGS 510: Technical Rules for Hazardous Substances "storage of hazardous materials in portable tanks"

TRGS 900: Technical Rules for Hazardous Substances "workplace exposure limits"

EN 374: Standard for protective gloves (gloves for protection against chemicals and micro-organisms)

EN 166: European safety standards for eye and face protection (requirements)

STOT: Specific target organ toxicity AVV: European Waste Catalogue VOC: Volatile organic compound

GHS: Globally Harmonized System of Classification, Labelling and Packaging of Chemicals

ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route

(Agreement concerning the international carriage of Dangerous goods by Road)
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail

IMDG-Code: International Maritime Code for Dangerous Goods

Harmful if swallowed.

ADN: sea and inland waterway transport ICAO: International Civil Aviation Organization

MARPOL 73/78: International Convention for the Prevention of Pollution From Ships

IBC-Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in

Bulk

H302

n.a. - not applicabile

Relevant H and EUH statements (number and full text)

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.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

Further Information

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.

The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.

The delivery specifications are contained in the corresponding product sheet.

This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

(n.a. = not applicable; n.d. = not determined)

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