

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 and Regulation (EU) No 453/2010 (REACH)



ZZ-Fire Protection Foam 2K NE

Article number B15N01-0106

Revision date: 19.12.2013
Version: 1

Language: en-GB,IE

Date of print: 19.12.2013
Page: 1 of 10

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

1.1 Product identifier

Trade name: ZZ-Fire Protection Foam 2K NE

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

General use: Di-/poly-isocyanate component to produce polyurethanes
For industrial purposes only

1.3 Details of the supplier of the safety data sheet

Company name: ZAPP-ZIMMERMANN GmbH
Street/POB-No.: Marconistr. 7-9
Postal Code, city: 50769 Köln
Germany
WWW: www.z-z.de
E-mail: info@z-z.de
Telephone: +49 (0)221-97 061-0
Telefax: +49 (0)221-97 061-928
Dept. responsible for information:
Lars Volkmer,
Telephone: +49 (0)221-97061-160, e-mail Lars.Volkmer@kzim.de

1.4 Emergency telephone number

Giftnotruf Berlin, Telephone: +49 (0) 30-30686790

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

Skin Irrit. 2; H315 Causes skin irritation.
Eye Irrit. 2; H319 Causes serious eye irritation.
Resp. Sens. 1; H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1; H317 May cause an allergic skin reaction.
Carc. 2; H351 Suspected of causing cancer.
STOT SE 3; H335 May cause respiratory irritation.
STOT RE 2; H373 May cause damage to organs through prolonged or repeated exposure.

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

Carc. Cat. 3; R40 Limited evidence of a carcinogenic effect.
Xn; R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
Xi; R36/37/38 Irritating to eyes, respiratory system and skin.
Sens.; R42/43 May cause sensitization by inhalation and skin contact.

2.2 Label elements

Labelling (CLP)



Signal word:

Danger

SAFETY DATA SHEET

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ZZ ZAPP-
ZIMMERMANN

ZZ-Fire Protection Foam 2K NE

Article number B15N01-0106

Revision date: 19.12.2013
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Language: en-GB,IE

Date of print: 19.12.2013
Page: 2 of 10

Hazard statements:	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.
Safety precautions:	H373	May cause damage to organs through prolonged or repeated exposure.
	P201	Obtain special instructions before use.
	P260	Do not breathe dusts or mists.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P285	In case of inadequate ventilation wear respiratory protection.
	P302+P352	IF ON SKIN: Wash with plenty of water/soap.
	P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P308+P313	IF exposed or concerned: Get medical advice/attention.
	P501	Dispose of contents/container to hazardous or special waste collection point.

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



Xn

harmful

R phrase(s):	R 36/37/38	Irritating to eyes, respiratory system and skin.
	R 40	Limited evidence of a carcinogenic effect.
	R 42/43	May cause sensitization by inhalation and skin contact.
	R 48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
S phrase(s):	S 22	Do not breathe dust.
	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 36/37	Wear suitable protective clothing and gloves.
	S 45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
	S 46	If swallowed, seek medical advice immediately and show this container or label.

Special labelling

EUH204 Contains isocyanates. May produce an allergic reaction.
Contains Diphenylmethane diisocyanate (isomers, homologues).

2.3 Other hazards

Persons with over-sensitive breath ways (e.g. asthma, chronic bronchitis) are not allowed to use the product due to safety regulations.
Vapours and aerosols are the main dangers to the respiratory tract.
Respiratory symptoms may still occur several hours after overexposure.

SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 and Regulation (EU) No 453/2010 (REACH)



ZZ-Fire Protection Foam 2K NE

Article number B15N01-0106

Revision date: 19.12.2013
Version: 1

Language: en-GB,IE

Date of print: 19.12.2013
Page: 3 of 10

3.2 Mixtures

Hazardous ingredients:

Ingredient	Designation	Content	Classification
EINECS - CAS 9016-87-9	Diphenylmethane diisocyanate (isomers, homologues)	10 - 30 %	EU: Xn; R20. Xn; R48/20. Carc. Cat. 3; R40. Sens.; R42/43. Xi; R36/37/38. CLP: Acute Tox. 4; H332. Skin Irrit. 2; H315. Eye Irrit. 2; H319. Resp. Sens. 1; H334. Skin Sens. 1; H317. Carc. 2; H351. STOT SE 3; H335. STOT RE 2; H373.
EINECS 907-495-0 CAS -	Reaction product of decanoic acid, 12-hydroxystearic acid and 1,2-ethanediamine	< 10 %	EU: R52. CLP: Aquatic Chronic 3; H412.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:	Immediately remove any wetted clothing, shoes or stockings.
In case of inhalation:	Move victim to fresh air; if necessary, provide artificial respiration or oxygen. Do not allow victim to become chilled. Keep victim warm. Keep victim calm and seek medical attention immediately. If victim is at risk of losing consciousness, position and transport on their side.
In case of skin contact:	Immediately clean with water and soap and, if available, apply a generous amount of polyethylene glycol 400. In case of skin reactions, consult a physician.
After eye contact:	Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Afterwards, consult an ophthalmologist immediately.
After swallowing:	Rinse mouth. Do not induce vomiting. Immediately get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

In case of inhalation: Irritation of nose, throat, lung.
Headache, throat dryness, respiratory complaints, chest pressure.
May cause sensitization by inhalation. Susceptible persons may develop ailments and allergic reactions with some delay.
In case of ingestion: May be harmful if swallowed.
After contact with skin:
In case of a prolonged contact tanning and irritating effects may occur.
After eye contact:
Produces for a short time a weak reddening and tumefaction of the conjunctiva as well as a weak, reversible rendering turbid of the cornea.

4.3 Indication of any immediate medical attention and special treatment needed

Product causes irritation of respiratory tracts and may possibly increase sensitivity of skin and respiratory tracts. Treatment of the acute irritation or bronchial narrowing is mainly symptomatic. Depending on the scale of exposition, as well as aches and pains resulting, long-term medical care may be required.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 and Regulation (EU) No 453/2010 (REACH)



ZZ-Fire Protection Foam 2K NE

Article number B15N01-0106

Revision date: 19.12.2013
Version: 1

Language: en-GB,IE

Date of print: 19.12.2013
Page: 4 of 10

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Foam, extinguishing powder, carbon dioxide
In case of greater fires: also water fog

Extinguishing media which must not be used for safety reasons:

strong water jet

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated: Isocyanate vapours, traces of hydrogen cyanide, nitrous fumes, carbon monoxide

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained breathing apparatus and protective clothing to protect skin and eyes.

Additional information:

Hazchem-Code: -

Heating causes rise in pressure with risk of bursting.

Cool endangered containers with water spray and, if possible, remove from danger zone.

Remove persons not involved upwind.

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

Avoid exposure. Keep away from unprotected people. Wear suitable protective clothing.

Provide adequate ventilation. Avoid contact with the substance.

Use a breathing protection against vapours/aerosol.

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal. Final cleaning.

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: Avoid exposure - obtain special instructions before use.

Provide adequate ventilation, and local exhaust as needed.

Airflow should move away from persons.

The effectiveness of the facilities must be checked at regular intervals.

Avoid contact with skin and eyes. Wear protective equipment.

Do not breathe dusts or mists.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep containers tightly closed and at a temperature between 10 °C and 35 °C. Keep in a cool, well-ventilated place. Keep container dry. Protect from humidity and water.

Do not allow the product to enter the ground.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 and Regulation (EU) No 453/2010 (REACH)



ZZ-Fire Protection Foam 2K NE

Article number B15N01-0106

Revision date: 19.12.2013
Version: 1

Language: en-GB,IE

Date of print: 19.12.2013
Page: 5 of 10

Hints on joint storage: Keep away from food and drink.
Further details: Use caution when opening containers under pressure.
Storage class: 10 = Combustible liquids, unless storage class 3

7.3 Specific end use(s)

Observe instructions for use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
9016-87-9	Diphenylmethane diisocyanate (isomers, homologues)	Great Britain: WEL-STEL	0.07 mg/m ³ (as -NCO)
		Great Britain: WEL-TWA	0.02 mg/m ³ (as -NCO)

Additional information: Product, cured:
For mechanical processing: Comply with occupational limit values for dust.

8.2 Exposure controls

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

Occupational exposure controls

Respiratory protection: Respiratory protection must be worn whenever the WEL levels have been exceeded.
Use combination filter type A2-P2 according to EN 14387.

Hand protection: protective gloves according to EN 374
Glove material:
Nitrile rubber - NBR \geq 0,35 mm
Butyl caoutchouc (butyl rubber) - IIR \geq 0,5 mm,
Fluororubber (Viton) - FKM (\geq 0,4 mm)
Polyvinyl chloride - PVC (\geq 0,5 mm).
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 exposure - obtain special instructions before use.
Avoid contact with the substance. Do not breathe dusts or mists.
Work place should be equipped with a shower and an eye rinsing apparatus.
Wash hands before breaks and after work.
Take off immediately all contaminated clothing.
Keep away from food, drink and animal feeding stuffs.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: Physical state: liquid
Colour: red brown

Odour: characteristic

Odour threshold: no data available

pH value: not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 and Regulation (EU) No 453/2010 (REACH)



ZZ-Fire Protection Foam 2K NE

Article number B15N01-0106

Revision date: 19.12.2013
Version: 1

Language: en-GB,IE

Date of print: 19.12.2013
Page: 6 of 10

Melting point/freezing point:	not determined
Initial boiling point and boiling range:	not determined
Flash point/flash point range:	not applicable
Evaporation rate:	no data available
Flammability:	not determined
Explosive properties:	no data available
Explosion limits:	LEL (Lower Explosion Limit): not applicable UEL (Upper Explosive Limit): not applicable
Vapour pressure:	at 25 °C: <= 0.00001 kPa
Vapour density:	no data available
Density:	approx. 1.3 g/mL
Water solubility:	practically insoluble
Partition coefficient: n-octanol/water:	not determined
Auto-ignition temperature:	not applicable
Thermal decomposition:	no data available
Viscosity, dynamic:	not relevant
Explosive properties:	no data available
Oxidizing characteristics:	no

9.2 Other information

Bulk density:	not applicable
Additional information:	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Reactions with alcohols, amines, liquid acids and bases.
Contact with Water liberates carbon dioxide.

10.2 Chemical stability

Product is stable under normal storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Amines, alcohols, water

10.6 Hazardous decomposition products

In case of fire: Isocyanate vapours, traces of hydrogen cyanide, nitrous fumes, carbon monoxide

Thermal decomposition: no data available

SAFETY DATA SHEET

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ZZ-Fire Protection Foam 2K NE

Article number B15N01-0106

Revision date: 19.12.2013
Version: 1

Language: en-GB,IE

Date of print: 19.12.2013
Page: 7 of 10

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects:

- Acute toxicity (oral): Based on available data, the classification criteria are not met.
- Acute toxicity (dermal): Based on available data, the classification criteria are not met.
- Acute toxicity (inhalative): Based on available data, the classification criteria are not met.
- Skin corrosion/irritation: Skin Irrit. 2; H315 = Causes skin irritation.
- Eye damage/irritation: Eye Irrit. 2; H319 = Causes serious eye irritation.
- 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: Carc. 2; H351 = Suspected of causing cancer.
- Reproductive toxicity: Lack of data.
- Effects on or via lactation: Lack of data.
- Specific target organ toxicity (single exposure): STOT SE 3; H335 = May cause respiratory irritation.
- Specific target organ toxicity (repeated exposure): STOT RE 2; H373 = May cause damage to organs through prolonged or repeated exposure.
- Aspiration hazard: Lack of data.

Carcinogenic, germ cell mutagen and reproduction effects:
Carc. Cat. 3 - Limited evidence of a carcinogenic effect.

Other information: Persons with over-sensitive breath ways (e.g. asthma, chronic bronchitis) are not allowed to use the product due to safety regulations.

Information about Diphenylmethane diisocyanate (isomers, homologues):
A long-term studie with rats over two years with mechanically produced, inhalable aerosols (aerodyn. diametre of 95% under 5 µm) of polymer MDI (PMDI) and concentrations of 0.2, 1.0 and 6.0 mg PMDI/m³ showed the following results:
The group of animals exposed to the highest concentration suffered an increased incidence of lung tumours, persistent inflammatory changes to the nose, respiratory tract and lungs, and yellowish deposits in the respiratory tract and lungs.
The animals in the 1.0mg/m³ group exhibited slight irritation and inflammatory changes to the nose, respiratory tract and lungs, but did not develop lung tumours and/or deposits.
Animals in the 0.2 mg/m³ group suffered no irritation: this concentration was therefore deemed to constitute the 'no-effect level'.

Symptoms

In case of inhalation: Irritation of nose, throat, lung.
Headache, throat dryness, respiratory complaints, chest pressure.
May cause sensitization by inhalation. Susceptible persons may develop ailments and allergic reactions with some delay.

In case of ingestion: May be harmful if swallowed.

After contact with skin:
In case of a prolonged contact tanning and irritating effects may occur.

After eye contact:
Produces for a short time a weak reddening and tumefaction of the conjunctiva as well as a weak, reversible rendering turbid of the cornea.

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Article number B15N01-0106

Revision date: 19.12.2013
Version: 1

Language: en-GB,IE

Date of print: 19.12.2013
Page: 8 of 10

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: Information about Diphenylmethane diisocyanate (isomers, homologues):
Bacterial toxicity: EC50 > 100 mg/L /3h
Daphnia toxicity: EC50 Daphnia magna: > 1000 mg/L /24h
Fish toxicity: LC 0 Brachydanio rerio (zebra-fish): > 1000 mg/L /96 h.

12.2. Persistence and degradability

Further details: Forms carbon dioxide and turns into a hard and insoluble by-product (poly urea) on the water's edge. This reaction is intensified by surface-active substances (e.g. liquid soaps) or water soluble solvents. Based upon current knowledge, poly urea is inert and will not decompose.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:
not determined

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 05 01* = Waste isocyanates
* = Evidence for disposal must be provided.

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

Contaminated packaging

Waste key number: 15 01 02 = Plastic packaging
Recommendation: Dispose of waste according to applicable legislation.
Handle contaminated packages in the same way as the substance itself.
Non-contaminated packages may be recycled.

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

SAFETY DATA SHEET

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ZZ-Fire Protection Foam 2K NE

Article number B15N01-0106

Revision date: 19.12.2013
Version: 1

Language: en-GB,IE

Date of print: 19.12.2013
Page: 9 of 10

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 - EC member states

Labelling of packaging with <= 125mL content



Signal word:

Danger

Hazard statements:

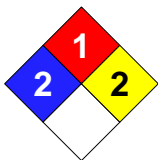
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.

Safety precautions:

P201 Obtain special instructions before use.
P260 Do not breathe dusts or mists.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P285 In case of inadequate ventilation wear respiratory protection.
P302+P352 IF ON SKIN: Wash with plenty of water/soap.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P501 Dispose of contents/container to hazardous or special waste collection point.

National regulations - USA

Hazard rating systems:



NFPA Hazard Rating:
Health: 2 (Moderate)
Fire: 1 (Slight)
Reactivity: 2 (Moderate)

HMIS Version III Rating:
Health: 2 (Moderate) - Chronic effects
Flammability: 1 (Slight)
Physical Hazard: 2 (Moderate)
Personal Protection: X = Consult your supervisor

HEALTH	*	2
FLAMMABILITY		1
PHYSICAL HAZARD		2
		X

National regulations - Canada

DSL: listed ingredients: all

SAFETY DATA SHEET

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ZZ-Fire Protection Foam 2K NE

Article number B15N01-0106

Revision date: 19.12.2013
Version: 1

Language: en-GB,IE

Date of print: 19.12.2013
Page: 10 of 10

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:

- 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.
- H412 = Harmful to aquatic life with long lasting effects.
- EUH204 = Contains isocyanates. May produce an allergic reaction.

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

- R 20 = Harmful by inhalation.
- R 36/37/38 = Irritating to eyes, respiratory system and skin.
- R 40 = Limited evidence of a carcinogenic effect.
- R 42/43 = May cause sensitization by inhalation and skin contact.
- R 48/20 = Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- R 52 = Harmful to aquatic organisms.

Date of first version: 19.12.2013

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).

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.