Safety Data Sheet according to Regulation (EC) No 1907/2006

SDS No. : 610115
V001.1

TEROSON EF TK 400 Foam adhesive for Roofing Membranes

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Replaces version from: 30.08.2017

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

1.1. Product identifier
TEROSON EF TK 400 Foam adhesive for Roofing Membranes

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use:
Foam, 1-component with propellant gas

1.3. Details of the supplier of the safety data sheet
Henkel AG & Co. KGaA
Henkelstr. 67
40589 Düsseldorf

Germany

Phone: +49 211 797 0
Fax-no.: +49 211 798 2009

ua-productsafety.de@henkel.com

1.4. Emergency contact details:
Australian Supplier: Projex Group Pty Ltd
Address: Unit 2/1 Military Road, Matraville NSW 2036
Phone: +61 2 8336 1666
Email: mail@projex.com.au Web: www.projex.com.au

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Flammable aerosols	Category 1
H222 Extremely flammable aerosol.	
Flammable aerosols	Category 3
H229 Pressurised container: May burst if heated.	
Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Respiratory sensitizer	Category 1
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Carcinogenicity	Category 2
H351 Suspected of causing cancer.	
Specific target organ toxicity - single exposure	Category 3
H335 May cause respiratory irritation.	
Target organ: respiratory tract irritation	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:

Contains Diphenylmethane diisocyanate, isomers and homologues

Signal word: Danger

Hazard statement:
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.

Precautionary statement: P102 Keep out of reach of children.

Precautionary statement: Prevention
P260 Do not breathe vapours.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/eye protection.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.

Precautionary statement: Storage P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Precautionary statement: Disposal P501 Dispose of contents/container in accordance with national regulation.

2.3. Other hazards
Information according to XVII. 56 REACH
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.
Solvents contained in the product evaporate during processing and their vapors can form explosive/highly inflammable air/vapor mixtures.
Pregnant women should absolutely avoid inhalation and skin contact.
Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General chemical description:
1-Component PU foam in pressurized can
Base substances of preparation:
Polyurethane prepolymer
With free 4,4'-methylenediphenyl diisocyanate (MDI)
Dimethyl ether

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
1,1-Difluoroethane 75-37-6	200-866-1 01-2119474440-43	10- 20 %	Flam. Gas 1 H220 Press. Gas
Polymethylenepolyphenyl polyisocyanate 9016-87-9		5- < 10 %	Carc. 2 H351 Acute Tox. 4; Inhalation H332 STOT RE 2 H373 Eye Irrit. 2 H319 STOT SE 3 H335 Skin Irrit. 2 H315 Resp. Sens. 1 H334 Skin Sens. 1 H317
Dimethyl ether 115-10-6	204-065-8 01-2119472128-37	5- < 10 %	Flam. Gas 1 H220 Press. Gas H280

For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:
In case of adverse health effects seek medical advice.

Inhalation:
Move to fresh air, consult doctor if complaint persists.
Delayed effects possible after inhalation.

Skin contact:
Fresh foam : Wipe off affected skin area immediately with a soft cloth and then remove residues with vegetable oil; apply skin care product. Cured foam can be removed only mechanically.

Eye contact:
Immediately flush eyes with soft jet of water or eye rinse solution for at least 5 minutes. If pains remain (intensive smarting, sensitivity to light, visual disturbance) continue flushing and contact/seek doctor or hospital.

Ingestion:
Rinse mouth, do not induce vomiting, consult a doctor.

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

May cause an allergic skin reaction.

Causes serious eye irritation.

RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

SKIN: Redness, inflammation.

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

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
carbon dioxide, foam, powder, water spray jet, fine water spray

Extinguishing media which must not be used for safety reasons:
High pressure waterjet

5.2. Special hazards arising from the substance or mixture
In the event of fire, isocyanate vapors may be formed.
In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.

5.3. Advice for firefighters
Wear self-contained breathing apparatus.
Wear protective equipment.

Additional information:
Cool endangered containers with water spray jet.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear protective equipment.
Danger of slipping on spilled product.
Ensure adequate ventilation.
Avoid contact with skin and eyes.

6.2. Environmental precautions
Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up
Remove mechanically.
Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections
See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Ventilate working rooms thoroughly. Avoid naked flames, sparking and sources of ignition. Switch off electrical devices. Do not smoke, do not weld. Do not empty waste into waste water drains.
Transport by automobile: leave the container wrapped in a cloth in the trunk, never in the passenger area.
During processing and drying after adhesion, ventilate well. Avoid all sources of fire such as stoves and ovens. Switch off all electrical devices such as parabolic heaters, hot plates, storage heaters etc. in good time for them to have cooled down before commencing work. Avoid all sparks, including those occurring at electrical switches and devices.
Avoid skin and eye contact.

Hygiene measures:
Do not eat, drink or smoke while working.
Wash hands before work breaks and after finishing work.
Remove any dirt that gets onto the skin with vegetable oil; skin care.

7.2. Conditions for safe storage, including any incompatibilities
For pressurized can: protect from direct sunshine and temperatures above 50°C.
Store in a cool, dry place.
Ensure that storage and workrooms are adequately ventilated.
Avoid strictly temperatures below - 20 °C and above + 50 °C.
Protect from direct sunlight.
Storage at 5 to 25°C is recommended.
Do not store or use near heat, spark, open flame or other sources of ignition.
Do not store together with food or other consumables (coffee, tea, tobacco, etc.).
Do not store together with flammable solutions.
Do not store together with oxidants.

7.3. Specific end use(s)
Foam, 1-component with propellant gas

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Dimethyl ether 115-10-6 [DIMETHYLETHER]	1.000	1.920	Time Weighted Average (TWA):	Indicative	ECTLV
Dimethyl ether 115-10-6	1.000	1.900	Exposure limit(s):	8	TRGS 900
Dimethyl ether 115-10-6			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
4,4'-Methylenediphenyl diisocyanate 9016-87-9		0,05	Exposure limit(s):	=2= If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
4,4'-Methylenediphenyl diisocyanate 9016-87-9			STEL (Short Term Exposure Limit) factor:	1 Substance listed with both Peak factor and STEL factor. The Peak factor is supplied with the AGW values.	TRGS 900
4,4'-Methylenediphenyl diisocyanate 9016-87-9			Skin designation:	Can be absorbed through the skin.	TRGS 900
4,4'-Methylenediphenyl diisocyanate 9016-87-9			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
1,1-Difluoroethane 75-37-6	aqua (freshwater)		0,048 mg/l				
1,1-Difluoroethane 75-37-6	aqua (marine water)		0,0048 mg/l				
1,1-Difluoroethane 75-37-6	aqua (intermittent releases)		0,48 mg/l				
1,1-Difluoroethane 75-37-6	sediment (freshwater)				0,19 mg/kg		
1,1-Difluoroethane 75-37-6	sediment (marine water)				0,019 mg/kg		
1,1-Difluoroethane 75-37-6	Soil				0,141 mg/kg		
Dimethyl ether 115-10-6	aqua (freshwater)		0,155 mg/l				
Dimethyl ether 115-10-6	sediment (freshwater)				0,681 mg/kg		
Dimethyl ether 115-10-6	Soil				0,045 mg/kg		
Dimethyl ether 115-10-6	sewage treatment plant (STP)		160 mg/l				
Dimethyl ether 115-10-6	aqua (marine water)		0,016 mg/l				
Dimethyl ether 115-10-6	aqua (intermittent releases)		1,549 mg/l				
Dimethyl ether 115-10-6	sediment (marine water)				0,069 mg/kg		

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
1,1-Difluoroethane 75-37-6	Workers	Inhalation	Long term exposure - systemic effects		2713 mg/m3	
1,1-Difluoroethane 75-37-6	General population	Inhalation	Long term exposure - systemic effects		675 mg/m3	
Dimethyl ether 115-10-6	Workers	inhalation	Long term exposure - systemic effects		1894 mg/m3	
Dimethyl ether 115-10-6	General population	inhalation	Long term exposure - systemic effects		471 mg/m3	

Biological Exposure Indices:
None

8.2. Exposure controls:

Respiratory protection:
The product should only be used at workplaces with intensive ventilation/extraction. If intensive ventilation/extraction is not possible then self-contained independent respiratory protection should be worn.

Hand protection:
Use attached gloves. Perforation time < 5 minutes.

Eye protection:
Goggles which can be tightly sealed.
Protective eye equipment should conform to EN166.

Skin protection:
Suitable protective clothing
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	pressurized can liquid orange
Odor	ether-like
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	-42 °C (-43.6 °F)
Flash point	-104 °C (-155.2 °F)
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	
lower	0,40 %(V)
upper	32 %(V)
Vapour pressure	No data available / Not applicable
Relative vapour density:	No data available / Not applicable
Density (20 °C (68 °F))	1 g/ml
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (23 °C (73.4 °F))	Reacts slowly with water to liberate carbon dioxide gas.
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Oxidising properties	No data available / Not applicable

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity
Reaction with water, formation of CO2
Pressure build-up in closed containers.
Reaction with water, alcohols, amines.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
See section reactivity

10.4. Conditions to avoid
Humidity
Temperatures over appr. 50 °C

10.5. Incompatible materials
See section reactivity.

10.6. Hazardous decomposition products
At higher temperatures isocyanate may be released.
Carbon dioxide is generated under contact with moisture, leading to pressure in the cans. Danger of cans bursting!

SECTION 11: Toxicological information

General toxicological information:
Persons suffering from allergic reactions to isocyanates should avoid contact with the product.
Cross-reactions with other isocyanate compounds are possible.

11.1. Information on toxicological effects

Acute oral toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Polymethylenepolyphenyl polyisocyanate 9016-87-9	LD50	> 10.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)

Acute dermal toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Polymethylenepolyphenyl polyisocyanate 9016-87-9	LD50	> 9.400 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

In the event of protracted or repeated exposure, damage to health cannot be excluded.
The toxicity of the product is due to its narcotic effect after inhalation.

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
1,1-Difluoroethane 75-37-6	LC50	> 437500 ppm		4 h	rat	not specified
Dimethyl ether 115-10-6	LC50	164000 ppm		4 h	rat	not specified

Skin corrosion/irritation:

Causes skin irritation.

No substance data available.

Serious eye damage/irritation:

Causes serious eye irritation.

No substance data available.

Respiratory or skin sensitization:

May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

No substance data available.

Germ cell mutagenicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
1,1-Difluoroethane 75-37-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Dimethyl ether 115-10-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		not specified
1,1-Difluoroethane 75-37-6	negative	inhalation: gas		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity

Suspected of causing cancer

No substance data available.

Reproductive toxicity:

No data available.

STOT-single exposure:

May cause respiratory irritation.

No substance data available.

STOT-repeated exposure::

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
Polymethylenepolyphenyl polyisocyanate 9016-87-9	NOAEL 0,0002 mg/l	inhalation: aerosol	2 y 6 h per d, 5 d per week	rat	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Dimethyl ether 115-10-6	NOAEL > 10000 ppm	inhalation	4 week 6 hours/day, 5 days/week	rat	not specified

Aspiration hazard:

No data available.

SECTION 12: Ecological information

General ecological information:
Do not empty into drains, soil or bodies of water.

12.1. Toxicity

Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
1,1-Difluoroethane 75-37-6	LC50	356 mg/l	48 h	Leuciscus idus melanotus	DIN 38412-15
Polymethylenepolyphenyl polyisocyanate 9016-87-9	LC50	> 1.000 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Dimethyl ether 115-10-6	LC50	> 4.000 mg/l	96 h	Poecilia reticulata	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (Daphnia):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
1,1-Difluoroethane 75-37-6	EC50	146,695 mg/l	48 h	Daphnia sp.	not specified
Dimethyl ether 115-10-6	EC50	> 4.000 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity to aquatic invertebrates

No data available.

Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
1,1-Difluoroethane 75-37-6	EC50	> 433 mg/l	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Dimethyl ether 115-10-6	EC50	> 1.000 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity to microorganisms

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
1,1-Difluoroethane 75-37-6	EC0	135 mg/l	16 h		not specified
Dimethyl ether 115-10-6	EC10	> 1.600 mg/l	30 min	Pseudomonas putida	DIN 38412, part 27 (Bacterial oxygen consumption test)

12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Dimethyl ether 115-10-6	not readily biodegradable.	aerobic	5 %	28 d	EU Method C.4-A (Determination of the "Ready" BiodegradabilityDissolved Organic Carbon (DOC) Die-Away Test)

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
1,1-Difluoroethane 75-37-6	0,75		not specified
Dimethyl ether 115-10-6	0,07	25 °C	QSAR (Quantitative Structure Activity Relationship)

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
1,1-Difluoroethane 75-37-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Dimethyl ether 115-10-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:
Dispose of waste and residues in accordance with local authority requirements.

Disposal of uncleaned packages:
Use packages for recycling only when totally empty.
Empty PU foam canisters should be returned in the original carton to PDR GmbH, D-95449 Thurnau (free of charge collection service under tel.: 0800-783 6736, Fax: 0800-783 6737, Germany) for recycling. Individual containers should be disposed of at communal collection points.

Waste code

160504 gases in pressure containers (including halons) containing dangerous substances

SECTION 14: Transport information

14.1. UN number

ADR	1950
RID	1950
ADN	1950
IMDG	1950
IATA	1950

14.2. UN proper shipping name

ADR	AEROSOLS
RID	AEROSOLS
ADN	AEROSOLS
IMDG	AEROSOLS
IATA	Aerosols, flammable

14.3. Transport hazard class(es)

ADR	2.1
RID	2.1
ADN	2.1
IMDG	2.1
IATA	2.1

14.4. Packing group

ADR
RID
ADN
IMDG
IATA

14.5. Environmental hazards

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.6. Special precautions for user

ADR	not applicable Tunnelcode: (D)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

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

not applicable

SECTION 15: Regulatory information

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

VOC content (VOCV 814.018 VOC regulation CH) 9,5 %

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

National regulations/information (Germany):

BG regulations, rules, infos:
BG data sheet: BGI 524 Hazardous substances: polyurethane production and processing / isocyanates (M 044)
BG regulation: BGV B 1 Handling hazardous substances

Storage class according to TRGS 510: 2B

General remarks (DE): None

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
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:

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This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.