

## SECTION 01: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:**  
Safefloor SP401 Adhesive for synthetic turf
- Article number:  
127191
- Product Group  
1-component polyurethan adhesive
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- Product category  
PC1 Adhesives, sealants
- Application of the substance / the preparation  
Adhesives
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
STAUF Klebstoffwerk GmbH  
Oberhausener Strasse 1  
57234 Wilnsdorf, Germany  
+49-(0)2739-301-0  
+49-(0)2739-301-200
- **1.4 Further information obtainable from:**  
quality management  
QS@stauf.de
- **1.5 Emergency telephone number:**  
CARECHEM24- EU, +44 1235 239670

## SECTION 02: Hazards identification

- **2.1 Classification of the substance or mixture**
- Classification according to Regulation (EC) No 1272/2008



GHS08

Resp. Sens. 1 - H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carc. 2 - H351 Suspected of causing cancer.



GHS07

Skin Irrit. 2 - H315 Causes skin irritation.

Eye Irrit. 2 - H319 Causes serious eye irritation.

Skin Sens. 1 - H317 May cause an allergic skin reaction.

STOT SE 3 - H335 May cause respiratory irritation.

- **2.2 Label elements**
- Labelling according to Regulation (EC) No 1272/2008
- Hazard pictograms



GHS08

GHS07

- Signal word  
Danger

- Hazard-determining components of labelling:

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- Polypropylenglycol, Diphenylmethandiisocyanat Polymer / Hydrocarbons, C9 unsaturated, polymerized / 4,4'-methylenediphenyl diisocyanate
- Hazard statements
    - H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
    - H351 Suspected of causing cancer.
    - H335 May cause respiratory irritation.
    - H315 Causes skin irritation.
    - H319 Causes serious eye irritation.
    - H317 May cause an allergic skin reaction.
    - EUH204 Contains isocyanates. May produce an allergic reaction.
  - Precautionary statements
    - P101 If medical advice is needed, have product container or label at hand.
    - P102 Keep out of reach of children.
    - P103 Read label before use.
    - P280 Wear protective gloves/protective clothing/eye protection/face protection.
    - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
    - P302+P352 IF ON SKIN: Wash with plenty of water.
    - P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
    - P337+P313 If eye irritation persists: Get medical advice/attention.
    - P405 Store locked up.
    - P501 Dispose of contents/container in accordance with local/regional/ national/international regulations.
  - **2.3 Other hazards**
  - **Results of PBT and vPvB assessment**
  - PBT:
    - Not applicable.
  - vPvB:
    - Not applicable.

**SECTION 03: Composition/information on ingredients**

- **3.2 Mixtures**
- **Description:**
  - Mixture of substances listed below with nonhazardous additions.

• **Dangerous components:**

<i>CAS Number</i>		<i>%</i>
39420-98-9	<b>Polypropylenglycol, Diphenylmethandiisocyanat Polymer</b> ⚠ <i>Resp. Sens. 1 - H334; ⚠ <i>Skin Sens. 1 - H317</i></i>	<b>25,00- 50,00</b>
101-68-8	<b>4,4'-methylenediphenyl diisocyanate</b> <i>EC number: 202-966-0</i> <i>Record number 01-2119457014-47-0006</i> <b>Carc. 2</b> ⚠ <i>Resp. Sens. 1 - H334, Carc. 2 - H351, STOT RE 2 - H373; ⚠ <i>Acute Tox. 4 - H332, Skin Irrit. 2 - H315, Eye Irrit. 2 - H319, Skin Sens. 1 - H317, STOT SE 3 - H335</i></i>	<b>2,50- 5</b>
5873-54-1	<b>Diphenylmethan-2,4'-diisocyanate</b> <i>EC number: 227-534-9</i> <i>Record number 01-2119480143-45</i> <b>Carc. 2</b> ⚠ <i>Resp. Sens. 1 - H334, Carc. 2 - H351, STOT RE 2 - H373; ⚠ <i>Acute Tox. 4 - H332, Skin Irrit. 2 - H315, Eye Irrit. 2 - H319,</i></i>	<b>2,50- 5</b>

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<b>71302-83-5</b>	<b>Skin Sens. 1 - H317, STOT SE 3 - H335</b> <b>Hydrocarbons, C9 unsaturated, polymerized</b> <b>Record number 01-211955292-40-0000</b> <b>⚠ Skin Sens. 1 - H317; Aquatic Chronic 3</b> <b>- H412</b>	<b>2,50- 5</b>
<b>1305-78-8</b>	<b>calcium oxide</b> <b>EC number: 215-138-9</b> <b>⚠ Eye Dam. 1 - H318</b>	<b>0,00- 1,25</b>

- **Additional information:**

For the wording of the listed risk phrases refer to section 16.

### SECTION 04: First aid measures

- **4.1 Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**  
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Do not induce vomiting; call for medical help immediately.
- **Information for doctor:**
- **4.2 Most important symptoms and effects, both acute and delayed**  
Allergic reactions  
Irritation
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### SECTION 05: Firefighting measures

- **Suitable extinguishing agents:**  
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**  
Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen, isocyanate vapors and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.
- **5.3 Advice for firefighters**  
Do not inhale explosion gases or combustion gases.
- **Protective equipment:**  
Wear self-contained respiratory protective device.

### SECTION 06: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation  
Wear protective clothing.
- **6.2 Environmental precautions:**  
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 Reference to other sections**

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See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## SECTION 07: Handling and storage

- **Handling:**
- **7.1 Precautions for safe handling**  
Use only in well ventilated areas.  
Avoid contact with the eyes and skin.
- **Information about fire - and explosion protection:**  
No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
No special requirements.
- **Information about storage in one common storage facility:**  
Not required.
- **Further information about storage conditions:**  
Store in cool, dry conditions in well sealed receptacles.
- **7.3 Specific end use(s)**  
No further relevant information available.

## SECTION 08: Exposure controls/personal protection

- **Ingredients with limit values that require monitoring at the workplace**

<b>101-68-8</b>	<b>4,4'-methylenediphenyl diisocyanate</b>		
<b>WEL</b>			
	<i>Short-term value</i>	<i>0.07</i>	<i>mg/m3</i>
	<i>Long-term value</i>	<i>0.02</i>	<i>mg/m3</i>
	<i>Sen; as -NCO</i>		
<b>5873-54-1</b>	<b>Diphenylmethan-2,4'-diisocyanate</b>		
<b>WEL</b>			
	<i>Short-term value</i>	<i>0.07</i>	<i>mg/m3</i>
	<i>Long-term value</i>	<i>0.02</i>	<i>mg/m3</i>
	<i>Sen; as -NCO</i>		
<b>1305-78-8</b>	<b>calcium oxide</b>		
<b>WEL</b>			
	<i>Short-term value</i>	<i>4*</i>	<i>mg/m3</i>
	<i>Long-term value</i>	<i>2 1*</i>	<i>mg/m3</i>
	<i>*respirable fraction</i>		

- **DNELs**

<b>101-68-8</b>	<b>4,4'-methylenediphenyl diisocyanate</b>	
	Inhalative, DNEL (dynamic): 0,05 mg/m3 (Workers)	
<b>5873-54-1</b>	<b>Diphenylmethan-2,4'-diisocyanate</b>	
	Inhalative, DNEL (dynamic): 0,05 mg/m3 (Workers)	
<b>71302-83-5</b>	<b>Hydrocarbons, C9 unsaturated, polymerized</b>	
	Dermal, DNEL: 16,4 mg/kg (Workers)	
	Inhalative, DNEL: 57 mg/m3 (Workers)	
<b>101-68-8</b>	<b>4,4'-methylenediphenyl diisocyanate</b>	
	PNEC: >0,1 mg/l (marinewater)	
	PNEC: >1 mg/l	
<b>5873-54-1</b>	<b>Diphenylmethan-2,4'-diisocyanate</b>	
	PNEC: >0,1 mg/l (marinewater)	

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- PNEC: >1 mg/l
- Ingredients with biological limit values:
    - 101-68-8**                    **4,4'-methylenediphenyl diisocyanate**
    - BMGV**
    - 1 µmol creatinine/mol**
    - Medium: urine**
    - Sampling time: At the end of the period od exposure**
    - Parameter: isocyanate-derived diamine**
    - 5873-54-1**                    **Diphenylmethan-2,4'-diisocyanate**
    - BMGV**
    - 1 µmol creatinine/mol**
    - Medium: urine**
    - Sampling time: At the end of the period od exposure**
    - Parameter: isocyanate-derived diamine**
  - **Additional information:**
    - The lists valid during the making were used as basis.
  - **8.2 Exposure controls**
  - **Personal protective equipment:**
  - **General protective and hygienic measures:**
    - The usual precautionary measures are to be adhered to when handling chemicals.
    - Avoid contact with the eyes and skin.
    - Wash hands before breaks and at the end of work, use skin care products.
    - Keep away from foodstuffs, beverages and feed.
  - **Respiratory protection: Not necessary if room is well-ventilated.**
  - **Protection of hands: Protective gloves**
    - Material of gloves
      - Butyl rubber, BR
      - Nitrile rubber, NBR
      - Natural rubber, NR
    - Penetration time of glove material
      - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
  - **Eye protection: Safety glasses**
  - **Body protection: Protective work clothing**

**SECTION 09: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:**

<b>Form:</b>	Fluid
<b>Colour:</b>	Dark green
<b>Odour:</b>	Weak, characteristic
<b>Odour threshold:</b>	Characteristic
<b>pH-value:</b>	Not determined.

**Change in condition**

<b>Initial boiling point and boiling range:</b>	Undetermined.
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<b>Flash point:</b>	201 °C
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<b>Flammability (solid, gas):</b>	Not applicable.
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**Ignition temperature:**

<b>Decomposition temperature:</b>	Not determined.
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<b>Auto-ignition temperature:</b>	Not determined.
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<b>Explosive properties:</b>	Not determined.
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**Explosion limits:**

<b>Lower:</b>	Not determined.
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<b>Upper:</b>	Not determined.
<b>Vapour pressure:</b>	Not determined.
<b>Density:</b>	1,3800 - 1,4800 g/cm <sup>3</sup>
<b>Solubility in / Miscibility with water:</b>	reacts s.Point 10
<b>Viscosity:</b>	
<b>Dynamic:</b>	at 20 °C 65.000 - 95.000 mPa.s
<b>VOC (EC)</b>	0,00 %
<b>9.2 Other information</b>	No further relevant information available.

## SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**  
Exothermic reaction with amines and alcohols; reacts with water forming CO<sub>2</sub>; in closed containers, risk of bursting owing to increase of pressure.
- **10.4 Conditions to avoid**  
No further relevant information available.
- **10.5 Incompatible materials:**  
No further relevant information available.
- **10.6 Hazardous decomposition products:**  
No dangerous decomposition products known.

## SECTION 11: Toxicological information

- **11.1 Acute toxicity**
- **LD/LC50 values relevant for classification:**
  - 101-68-8                    4,4'-methylenediphenyl diisocyanate**  
Oral, LD50: >2000 mg/kg (rat)  
Oral, LD50: 2200 mg/kg (mouse)  
Dermal, LD50: >9400 mg/kg (Rabbit)  
Inhalative, LC50/4h: 0,368 mg/l (rat)
  - 5873-54-1                    Diphenylmethan-2,4'-diisocyanate**  
Oral, LD50: >2000 mg/kg (rat)  
Dermal, LD50: >9400 mg/kg (Rabbit)  
Inhalative, LC50/4h: 0,31 mg/l (rat)
  - 71302-83-5                    Hydrocarbons, C9 unsaturated, polymerized**  
Oral, LD50: >2000 mg/kg (rat)  
Dermal, LD50: >2000 mg/kg (rat)  
Inhalative, LC50/4h: >5 mg/l (rat)
- **Primary irritant effect:**
- Skin corrosion/irritation  
Irritant to skin and mucous membranes.
- Serious eye damage/irritation  
Irritating effect.
- **Respiratory or skin sensitisation**  
Sensitisation possible through inhalation.  
Sensitisation possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Harmful  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Carc. 2

GB

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### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
  - 101-68-8**      **4,4'-methylenediphenyl diisocyanate**  
NOEL/ 72h: >10 mg/l (daphnie)
  - 71302-83-5**      **Hydrocarbons, C9 unsaturated, polymerized**  
EL50 (48h): 54 mg/l (daphnie)  
EL50 72h: >100 mg/l  
LL50 (96h): 25,8 mg/l (fish)
- **12.2 Persistence and degradability**  
No further relevant information available.
- **Behaviour in environmental systems:**
- **12.3 Bioaccumulative potential**  
No further relevant information available.
- **12.4 Mobility in soil**  
No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:**  
Not applicable.
- **vPvB:**  
Not applicable.
- **12.6 Other adverse effects**  
No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **European waste catalogue**
  - 07
  - WASTES FROM ORGANIC CHEMICAL PROCESSES
  - 07 02
  - wastes from the MFSU of plastics, synthetic rubber and man-made fibres
  - 07 02 08
  - other still bottoms and reaction residues
- **Uncleaned packaging:**
- **Recommendation:**  
Disposal must be made according to official regulations.

### SECTION 14: Transport information

- **14.1 UN-Number**

<b>ADR</b>	Void
<b>IMDG</b>	Void
<b>IATA</b>	Void
- **14.2 UN proper shipping name**

<b>ADR</b>	Void
<b>IMDG</b>	Void
<b>IATA</b>	Void
- **14.3 Transport hazard class(es)**

<b>ADR</b>	
<b>Class</b>	Void

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**IMDG****Class** Void**IATA****Class** Void• **14.4 Packing group****ADR** Void**IMDG** Void**IATA** Void• **14.5 Environmental hazards:**

Not applicable.

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

Not applicable.

### SECTION 15: Regulatory information

• **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**• **REGULATION (EC) No 1907/2006 ANNEX XVII**

Conditions of restriction: 3, 56a, 56b

• **National regulations:**• **Waterhazard class:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.

• **15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• **Relevant phrases**

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
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.

• **Department issuing MSDS:**

quality management

• **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (REACH)

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PNEC: Predicted No-Effect Concentration (REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative