

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/15/2017

Reviewed on 08/04/2016

1 Identification

- **Product identifier**
- **Trade name:** *Dr. Schutz Crosslinker A*
- **Application of the substance / the mixture** Coating compound/ Surface coating/ paint
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Supplier:
Dr. Schutz GmbH
Holbeinstraße 17
D-53175 Bonn
Tel: +49 228/95 35 2-0
Fax: +49 228/95 35 2-46
E-Mail: export@dr-schutz.com
- **Import:**
Dr. Schutz NA
4701 Bath St. 46
Philadelphia PA 19137
Tel.: 001/877 2724889
E-Mail: sam@schutzna.com
- **Information department:**
E-Mail: sam@schutzna.com
Department for product development
- **Emergency telephone number:**
Dr. Schutz NA,
Tel.: 001/877 2724889
Mo-Fr 8am - 7pm

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

- Acute Tox. 4 H332 Harmful if inhaled.
- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2A H319 Causes serious eye irritation.
- Skin Sens. 1 H317 May cause an allergic skin reaction.
- STOT SE 3 H335 May cause respiratory irritation.
- Flam. Liq. 4 H227 Combustible liquid.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07

- **Signal word** Warning

- **Hazard-determining components of labeling:**

aliphatic polyisocyanate
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers
Di(propylene glycol) dimethyl ether
cyclohexyldimethylamine

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- **Hazard statements**

Combustible liquid.
Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.

- **Precautionary statements**

Wear protective gloves / eye protection.
Take off contaminated clothing.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- **NFPA ratings (scale 0 - 4)**



Health = 1
Fire = 2
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 1
Fire = 2
Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

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

- **Dangerous components:**

666723-27-9	aliphatic polyisocyanate	50-100%
111109-77-4	Di(propylene glycol) dimethyl ether	10-25%
53880-05-0	3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	1-5%
123-86-4	n-butyl acetate	1-5%
9046-01-9	poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, phosphate	1-<3%
822-06-0	hexamethylene-di-isocyanate	0.1-<0.5%

4 First-aid measures

- **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.

- **After inhalation:**

Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:**

After each cleaning use treatment creams, for very dry skin greasy ointments.
Immediately wash with water and soap and rinse thoroughly.

- **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- **After swallowing:**

Call a doctor immediately.
Do not leave affected persons unattended.
Rinse out mouth and then drink plenty of water.

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- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Not applicable.
- **Special hazards arising from the substance or mixture** Danger of toxic pyrolysis products.
- **Advice for firefighters**
- **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Wear self-contained respiratory protective device.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
Ensure adequate ventilation
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

123-86-4	n-butyl acetate	5 ppm
98-94-2	cyclohexyldimethylamine	1 mg/m ³
822-06-0	hexamethylene-di-isocyanate	0.018 ppm
4098-71-9	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	0.02 ppm

· **PAC-2:**

123-86-4	n-butyl acetate	200 ppm
98-94-2	cyclohexyldimethylamine	11 mg/m ³
822-06-0	hexamethylene-di-isocyanate	0.2 ppm
4098-71-9	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	0.14 ppm

· **PAC-3:**

123-86-4	n-butyl acetate	3000* ppm
98-94-2	cyclohexyldimethylamine	66 mg/m ³
822-06-0	hexamethylene-di-isocyanate	3 ppm

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4098-71-9 | 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate

0.6 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Follow instructions on the label and in the Technical Product Information Sheet.
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
No special precautions are necessary if used correctly.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in unopened original receptacles.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
Store under lock and key and out of the reach of children.
Store receptacle in a well ventilated area.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

123-86-4 n-butyl acetate

PEL	Long-term value: 710 mg/m ³ , 150 ppm
REL	Short-term value: 950 mg/m ³ , 200 ppm Long-term value: 710 mg/m ³ , 150 ppm
TLV	Short-term value: 712 mg/m ³ , 150 ppm Long-term value: 238 mg/m ³ , 50 ppm

822-06-0 hexamethylene-di-isocyanate

REL	Long-term value: 0.035 mg/m ³ , 0.005 ppm Ceiling limit value: 0.14* mg/m ³ , 0.02* ppm *10-min
TLV	Long-term value: 0.034 mg/m ³ , 0.005 ppm BEI

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Clean skin thoroughly immediately after handling the product.
Do not eat, drink, smoke or sniff while working.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.

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- **Breathing equipment:**

Not necessary if room is well-ventilated.

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **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:**

Where there is a danger of the eyes coming into contact with splashes of liquid (i.e. when refilling larger quantities), safety goggles according to EN 166 (i.e. goggles with side shields) are recommended.

- **Body protection:** Light weight protective clothing

- **Limitation and supervision of exposure into the environment**

Follow instructions for use, dosage and waste disposal.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Fluid
Color: Colorless

- **Odor:** Ester-like

- **Odor threshold:** Not determined.

- **pH-value:** Not applicable.

- **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

- **Flash point:** 62 °C (144 °F) (Seta Flash Closed Cup)

- **Flammability (solid, gaseous):** Undetermined.

- **Ignition temperature:** 165 °C (329 °F)

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Not determined.

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· Explosion limits:	
Lower:	0.9 Vol %
Upper:	0.0 Vol %
· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	1.098 g/cm ³ (9.163 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C (68 °F):	73 s (DIN 53211/4)
· Solvent content:	
Organic solvents:	18.1 %
VOC content ASTM D3960:	18.1 %
	198.7 g/l / 1.66 lb/gl
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions".
- **Chemical stability** No information available.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
Reacts with alcohols, amines, aqueous acids and alkalis.
Reacts with water gently forming carbon dioxide. In case of moisture access pressure build-up and danger of bursting in closed packings.
- **Hazardous decomposition products:** Danger of toxic pyrolysis products.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

LD/LC50 values that are relevant for classification:

822-06-0 hexamethylene-di-isocyanate

Oral	LD50	738 mg/kg (rat)
Dermal	LD50	593 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:**
No sensitizing effects known.
Sensitization possible through skin contact.

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- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** Undetermined.

- **Persistence and degradability** The solvent is biodegradable.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** Undetermined.

- **Mobility in soil** No further relevant information available.

- **Ecotoxic effects:**

- **Remark:** Harmful to fish

- **Additional ecological information:**

- **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Disposal must be made according to official regulations.

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packagings:**

- **Recommendation:**

Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**

- **DOT, ADR, ADN**

- **IMDG, IATA**

Void

Void

No dangerous goods.

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· UN proper shipping name	
· DOT, ADR, ADN, IMDG, IATA	Void
· Transport hazard class(es)	
· DOT, ADR, ADN, IMDG, IATA	
· Class	Void
· Packing group	Not applicable.
· DOT, ADR, IMDG, IATA	Void
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	Void

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (extremely hazardous substances):

4098-71-9	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate
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· Section 313 (Specific toxic chemical listings):

822-06-0	hexamethylene-di-isocyanate
4098-71-9	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate

· TSCA (Toxic Substances Control Act):

666723-27-9	aliphatic polyisocyanate
111109-77-4	Di(propylene glycol) dimethyl ether
53880-05-0	3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers
123-86-4	n-butyl acetate
9046-01-9	poly(oxy-1,2-ethanediyl), α -tridecyl- ω -hydroxy-, phosphate
98-94-2	cyclohexyldimethylamine
822-06-0	hexamethylene-di-isocyanate
4098-71-9	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

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· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS07

· **Signal word** Warning· **Hazard-determining components of labeling:**

aliphatic polyisocyanate
 3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers
 Di(propylene glycol) dimethyl ether
 cyclohexyldimethylamine

· **Hazard statements**

Combustible liquid.
 Harmful if inhaled.
 Causes skin irritation.
 Causes serious eye irritation.
 May cause an allergic skin reaction.
 May cause respiratory irritation.

· **Precautionary statements**

Wear protective gloves / eye protection.
 Take off contaminated clothing.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**· **Information about limitation of use:**

Employment restrictions concerning young persons must be observed.
 Employment restrictions concerning pregnant and lactating women must be observed.
 People who suffer from allergies, asthma, chronic or recurring respiratory illnesses should not be deployed in any process using the product.

· **Other regulations, limitations and prohibitive regulations**

Other regulations (EC): Directive 2004/42/EC

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**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.

· **Training hints** ---· **Recommended restriction of use**

Not intended for spraying and industrial processing.
 Only for trade users

People who suffer from allergies, asthma, chronic or recurring respiratory illnesses should not be deployed in any process using the product.

· **Department issuing SDS:** Department for product development

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· Contact:

Dr. Reindl
Dr. Olaf Janßen

· Date of preparation / last revision 03/15/2017 / 3**· Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Liq. 4: Flammable liquids – Category 4
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· * Data compared to the previous version altered.

US