

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 26.10.2009

Revision: 01.12.2008

1 Identification of the substance/preparation and of the company/undertaking

- **Product details**
- **Identification of the substance/preparation:** *Marknomor*
- **Application of the substance / the preparation**
Sealing
Multi-pack product
- **Company/undertaking identification:**
CC-Dr. Schutz GmbH
Holbeinstr. 17, D-53175 Bonn
Tel. +49 (0)228 95352-0, Fax +49 (0)228 95352-28
- **Further information obtainable from:**
Department for product development
E-mail: labor@dr-schutz.com, www.dr-schutz.com, in USA info@schutzna.com, www.schutzna.com
- **Emergency telephone:**
CC-Dr. Schutz GmbH, Steinbrinksweg 30, D-31840 Hessisch Oldendorf, Tel. +49 (0)5152 9779-0 (Mo.-Do. 8.00-17.00 Uhr, Fr. 8.00-14-00 Uhr)
Schutz NA, 4701 Bath St, Philadelphia Pa 19137 USA Tel. 877-272-4889

2 Hazards identification

- **Classification:**
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Information concerning particular hazards for human and environment:**
No hazards to be particularly mentioned.

3 Composition/information on ingredients

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

· **Dangerous components:**

CAS: 111-90-0	2-(2-ethoxyethoxy)ethanol	5-10%
EINECS: 203-919-7		

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air.
- **After skin contact:**
Rinse with warm water.
After each cleaning use treatment creams, for very dry skin greasy ointments.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.

5 Fire-fighting measures

- **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards caused by the substance, its products of combustion or resulting gases:**
Danger of forming toxic pyrolysis products.

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- **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

- **Person-related safety precautions:**
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
- **Measures for environmental protection:**
Prevent from spreading (e.g. by damming-in or oil barriers).
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of the material collected according to regulations.

7 Handling and storage

- **Handling:**
- **Information 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.
- **Information about fire - and explosion protection:**
No special precautions are necessary if used correctly.
- **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 in cool, dry conditions in well sealed receptacles.
Protect from frost.
Protect from heat and direct sunlight.
Store under lock and key and out of the reach of children.

8 Exposure controls/personal protection

· Exposure limit values:

57-55-6 propane-1,2-diol

WEL	Long-term value: 474* 10** mg/m ³ , 150* ppm *total vapour and particulates **particulates
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- **Occupational exposure controls:**
- **General protective and hygienic measures:**
Avoid contact with the eyes and skin.
Do not eat, drink, smoke or sniff while working.
Be sure to clean skin thoroughly after work and before breaks.
Keep away from foodstuffs, beverages and feed.
- **Respiratory protection:** Not required.
- **Protection of hands:**



Protective gloves

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Only use chemical-protective gloves with CE-labelling of category III.

- **Material of gloves**

Nitrile rubber, NBR

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:** Not required.

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

Follow instructions for use, dosage and waste disposal.

9 Physical and chemical properties

- **General Information**

Form:	Fluid
Color:	Whitish
Odor:	Specific type

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

- **Flash point:** > 142°F (Seta Flash Closed Cup)

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

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

- **Danger of explosion:** Product does not present an explosion hazard.

- **Density at 68°F:** 1.033 g/cm³

- **Solubility in / Miscibility with water:** Fully miscible.

- **pH-value at 68°F:** 8.0

- **Viscosity:**
- Kinematic at 68°F:** 18-22 s (DIN 53211/4)

- **Solvent content:**
- VOC (EC)** <110 g/l, <275 g/2.5l container

10 Stability and reactivity

- **Conditions to avoid:**

Protect from frost.

No decomposition if used and stored according to specifications.

- **Materials to avoid:** No dangerous reactions known.

- **Hazardous decomposition products:** Danger of forming toxic pyrolysis products.

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11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.
When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.
- **Repeated dose toxicity** Undetermined.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)** Undetermined.

12 Ecological information

- **Persistence and degradability:**
Elimination of contained polymers is possible through precipitation or flocculation.
The solvent is biodegradable
- **Behaviour in environmental systems:**
- **Mobility and bioaccumulation potential:** Undetermined.
- **Ecotoxic effects:**
- **Acquatic toxicity:** Undetermined.
- **Behaviour in sewage processing plants:**
Technically correct releases of minimal concentrations to adapted biological sewage plants, will not disturb the biodegradability of activated sludge. Before allowing large quantities to be fed into sewage plants, obtain the approval of the responsible authorities.
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow to reach ground water/water course. Do not allow undiluted product or large quantities of it to reach sewage system.

13 Disposal considerations

- **Product:**
- **Recommendation**
Must be specially treated adhering to official regulations.
Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

· European waste catalogue

08 01 12	waste paint and varnish other than those mentioned in 08 01 11
08 01 20	aqueous suspensions containing paint or varnish other than those mentioned in 08 01 19

- **Uncleaned packaging:**
- **Recommendation:**
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning. Packagings that may not be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

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14 Transport information

- **Land transport ADR/RID (cross-border):**

- **ADR/RID class:** -

- **Maritime transport IMDG:**

- **IMDG Class:** -

- **Air transport ICAO-TI and IATA-DGR:**

- **ICAO/IATA Class:** -

15 Regulatory information

- **Labelling according to EC guidelines:**

- **Code letter and hazard designation of product:**

The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (German GefStoffV).

- **Safety phrases:**

1/2 Keep locked up and out of the reach of children.

- **National regulations:**

- **Other regulations, limitations and prohibitive regulations**

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

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.

Restricted to professional users.

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

- **Department issuing MSDS:** Department for product development

- **Contact:** Bettina Schaar

- **Sources** Safety data sheet for raw materials, eur-lex.europa.eu

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Printing date 30.03.2009

Revision: 08.08.2008

1 Identification of the substance/preparation and of the company/undertaking

- **Product details**

- **Identification of the substance/preparation:** Cross linker (Marknomor)

- **Application of the substance / the preparation**

Curing agent/ cross-linker/ Vulcanizing agent
Multi-pack product

- **Company/undertaking identification:**

CC-Dr. Schutz GmbH
Holbeinstr. 17, D-53175 Bonn
Tel. +49 (0)228 95352-0, Fax Tel. +49 (0)228 95352-28

- **Further information obtainable from:**

Department for product development
E-mail: labor@dr-schutz.com, www.dr-schutz.com, in USA info@schutzna.com, www.schutzna.com

- **Emergency telephone:**

CC-Dr. Schutz GmbH, Steinbrinksweg 30, D-31840 Hessisch Oldendorf, Tel. +49 (0)5152 97 79-0 (Mo.-Do. 8.00-17.00 Uhr, Fr. 8.00-14.00 Uhr)
Schutz NA, 4701 Bath St, Philadelphia Pa 19137 USA Tel. 877-272-4889

2 Hazards identification

- **Classification:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.



Xi Irritant

- **Information concerning particular hazards for human and environment:**

R 43 May cause sensitisation by skin contact.
Contains isocyanates. See information supplied by the manufacturer
Restricted to professional users.

3 Composition/information on ingredients

- **Chemical characterization**

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

- **Dangerous components:**

	polyisocyanate	Xi; R 43	50-80%
CAS: 123-86-4 EINECS: 204-658-1	n-butyl acetate	R 10-66-67	1-5%
CAS: 9046-01-9	Polyethoxytridecyletherphosphat	Xi, N; R 38-41-51/53	1-2%
CAS: 822-06-0 EINECS: 212-485-8	hexamethylene-di-isocyanate	T, Xi; R 23-36/37/38-42/43	<0.2%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

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

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

- **After skin contact:**

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

- **After eye contact:**

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

- **After swallowing:**

Rinse out mouth and then drink plenty of water.

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Call a doctor immediately.
Do not leave affected persons unattended.

5 Fire-fighting measures

- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards caused by the substance, its products of combustion or resulting gases:**
Danger of forming toxic pyrolysis products.
- **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

- **Person-related safety precautions:**
Avoid contact with the eyes and skin.
Wear protective equipment. Keep unprotected persons away.
Do not inhale gases / fumes / aerosols.
Ensure adequate ventilation
- **Measures for environmental protection:**
Prevent from spreading (e.g. by damming-in or oil barriers).
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of the material collected according to regulations.

7 Handling and storage

- **Handling:**
- **Information for safe handling:**
Follow instructions on the label and in the Technical Product Information Sheet.
Avoid contact with the eyes and skin.
Wear protective equipment. Keep unprotected persons away.
Do not inhale gases / fumes / aerosols.
Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:**
Highly volatile, flammable constituents are released during processing.
No special precautions are necessary if used correctly.
- **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 in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
Store under lock and key and out of the reach of children.

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8 Exposure controls/personal protection

Exposure limit values:
123-86-4 n-butyl acetate

WEL	Short-term value: 966 mg/m ³ , 200 ppm Long-term value: 724 mg/m ³ , 150 ppm
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822-06-0 hexamethylene-di-isocyanate

WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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Occupational exposure controls:
General protective and hygienic measures:

Avoid contact with the eyes and skin.
Immediately remove all soiled and contaminated clothing
Clean skin thoroughly immediately after handling the product.
Do not eat, drink, smoke or sniff while working.
Keep away from foodstuffs, beverages and feed.

Respiratory protection: Not necessary if room is well-ventilated.

Protection of hands:


Protective gloves

Only use chemical-protective gloves with CE-labelling of category III.

Material of gloves

Nitrile rubber, NBR
Butyl rubber, BR

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: Not required.

Limitation and supervision of exposure into the environment

Follow instructions for use, dosage and waste disposal.

9 Physical and chemical properties

General Information

Form:	Fluid
Color:	Colorless
Odor:	Ester-like

Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: Undetermined.

Flash point: > 142°F (Seta Flash Closed Cup)

Flammability (solid, gaseous): Undetermined.

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Identification of the substance/preparation: *Cross linker (Marknomor)*

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· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Density at 68°F:	1.091 g/cm ³
· Solubility in / Miscibility with water:	Fully miscible.
· pH-value:	Not applicable.
· Viscosity: Kinematic at 68°F:	70-75 s (DIN 53211/4)
· Solvent content: VOC (EC)	<250 g/l, <125g/500ml container

10 Stability and reactivity

- **Conditions to avoid:** No decomposition if used and stored according to specifications.
- **Materials to avoid:**
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 forming toxic pyrolysis products.

11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

polyisocyanate

Oral	LD50	>2000 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **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:
Irritant
- **Sensitisation** May cause sensitisation by skin contact.
- **Repeated dose toxicity** Undetermined.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)** Undetermined.

12 Ecological information

- **Persistence and degradability:** The solvent is biodegradable
- **Behaviour in environmental systems:**
- **Mobility and bioaccumulation potential:** Undetermined.
- **Ecotoxicological effects:**
- **Acquatic toxicity:** Undetermined.
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.

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13 Disposal considerations

- **Product:**
- **Recommendation**
Must be specially treated adhering to official regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue	
08 01 11	waste paint and varnish containing organic solvents or other dangerous substances
08 05 01	waste isocyanates

- **Uncleaned packaging:**
- **Recommendation:**
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

- **Land transport ADR/RID (cross-border):**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -

15 Regulatory information

- **Labelling according to EC guidelines:**
- **Code letter and hazard designation of product:**
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.



Xi Irritant

- **Hazard-determining components of labelling:**
polyisocyanate
- **Risk phrases:**
43 May cause sensitisation by skin contact.
- **Safety phrases:**
1/2 Keep locked up and out of the reach of children.
24 Avoid contact with skin.
37 Wear suitable gloves.
60 This material and its container must be disposed of as hazardous waste.
- **Special labelling of certain preparations:**
Contains isocyanates. See information supplied by the manufacturer
Restricted to professional users.
- **National regulations:**
- **Information about limitation of use:**
Employment restrictions concerning juveniles 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.

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- **Other regulations, limitations and prohibitive regulations**
Other regulations (EC): Directive 2004/42/EC

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 R-phrases**

- 10 Flammable.
- 23 Toxic by inhalation.
- 36/37/38 Irritating to eyes, respiratory system and skin.
- 38 Irritating to skin.
- 41 Risk of serious damage to eyes.
- 42/43 May cause sensitisation by inhalation and skin contact.
- 43 May cause sensitisation by skin contact.
- 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 66 Repeated exposure may cause skin dryness or cracking.
- 67 Vapours may cause drowsiness and dizziness.

- **Training hints** ---

- **Recommended restriction of use**

Not intended for spraying and industrial processing.

Restricted to professional users.

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

- **Department issuing MSDS:** Department for product development

- **Contact:** Dr. Hake

- **Sources** Safety data sheet for raw materials, eur-lex.europa.eu

USA