

# Material Safety Data Sheet

Trade name: PUR Hardener S54

Product no.: 7D054

Version: BUS021510

Date of printing: 2.24.2010

## 1.) Identification of the substance/preparation and of the company/undertaking

Identification of the substance or preparation

Trade name

### **PUR Hardener S54**

Company/undertaking identification

Address

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+49 (0) 4292 998 0 8 a.m. to 4 p.m. (CET)

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## 2.) Hazards Identification

### **Immediate hazards**

#### **General**

WARNING

Flammable liquid and vapor.

Toxic if inhaled.

May cause allergic skin reaction.

May cause eye irritation.

May cause respiratory tract irritation.

Prolonged or repeated contact may dry skin and cause irritation.

### **Potential Health Effects**

#### **Eye**

May cause eye irritation

#### **Skin**

May cause skin sensitization, an allergic reaction, which becomes evident on re-exposure to this material.

May cause skin irritation. Prolonged or repeated contact can result in de-fatting and drying of the skin which may result in skin irritation and dermatitis (rash).

#### **Inhalation**

Possible irritation of the respiratory system can occur causing a variety of symptoms such as: inflammation and ulceration of the respiratory tract; individuals with lung or breathing problems or prior reaction to isocyanates must not be exposed to vapor or spray mist. May cause: allergic respiratory reaction; May cause respiratory tract irritation.

#### **Ingestion**

May cause vomiting.

#### **Carcinogenicity**

None of the components in this material at concentrations equal or greater than 0.1% is listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

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## 3.) Composition / information on ingredients

### Chemical characterization

Mixture (preparation)

### Hazardous ingredients

#### N-BUTYL ACETATE

CAS no. 123-86-4

#### HEXAMETHYLENE-DISOCYANATE

CAS no. 822-06-0

#### HEXAMETHYLENE-1.6-DI-ISOCYANATE, HOMOPOLYMER

CAS no. 28182-81-2

## 4.) First Aid Measures

### General information

In all cases of doubt, or when sickness symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. Remove soiled or soaked clothing immediately.

### After inhalation

Remove to fresh air, keep patient warm and at rest. Irregular breathing/no breathing: artificial respiration.

If unconscious, place in recovery position and seek medical advice.

### After skin contact

Remove contaminated clothing immediately and dispose of safely. Wash skin thoroughly with soap and water or use recognized skin cleaner. Do NOT use solvents or thinners!

### After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart and seek medical advice.

### After ingestion

Do not induce vomiting. Keep at rest. Call a doctor.

## 5.) Firefighting measures

### Suitable extinguishing media

Alcohol resistant foam, CO<sub>2</sub>, powders, water spray

### Extinguishing media that must not be used for safety reasons

Full water jet

### Special exposure hazards arising from the substance or preparation itself, its combustion products or from resulting gases

Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

### Special protective equipment for firefighting

As in any fire, wear self-contained breathing apparatus pressure - demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### Other information

Cool endangered containers with water in case of fire. Do not allow run-off from firefighting to enter drains or water courses.

## 6.) Accidental release measures

### Personal precautions

Exclude sources of ignition and ventilate the area. Do not inhale vapors. Refer to protective measures listed in sections 7 and 8.

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## Environmental precautions

Do not allow to enter drains. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.

## Methods for cleaning up/taking up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in suitable container for disposal.

## Additional informations (chapter 6)

Immediately clean contaminated area with the following substances:

Water	45 Vol. %
Ethanol or Isopropyl Alcohol	50 Vol. %
Ammonia solution (density =0,88)	5 Vol. %

Alternative applicable to that (not flammable):

Sodium Carbonate	5 Vol. %
Water	95 Vol. %

## 7. Handling and storage

### Handling

#### Advice on safe handling

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used. Comply with the health and safety at work laws. Do not eat or drink during work - no smoking.

#### Advice on protection against fire and explosion

Preparation may charge electrostatically; always use properly installed grounding cables when transferring from one container to another.

### Storage

#### Requirements for storage rooms and vessels

Keep container tightly closed. Never use pressure to empty: container is not a pressure vessel. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

#### Hints on storage assembly

Do not store together with:

Oxidizing agents

Alkalies

Acids

Amines

Alcohols

#### Further information on storage conditions

Always keep in containers of same material as the original one. See also instructions on the label. Avoid heating and direct sunlight. Keep container dry in a cool, well-ventilated place. Precautions should be taken to minimize exposure to atmospheric humidity or water: CO<sub>2</sub> will be formed which in closed containers can result in pressurization. DO NOT KEEP THE CONTAINERS SEALED!

#### Recommended storage temperature

Value                      59                      -                      86                      °F

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## 8.) Exposure controls/ personal protection

### Exposure limit values

#### N-BUTYL ACETATE

CAS no. 123-86-4  
EC no. 204-658-1

#### ACGIH

n-Butyl acetate 150 ml/m<sup>3</sup>  
STEL 200 ml/m<sup>3</sup>

#### LIMITS FOR AIR CONTAMINANTS (OSHA)

n-Butyl-acetate  
TWA 710 mg/m<sup>3</sup> 150 ml/m<sup>3</sup>

#### HEXAMETHYLENE-DIISOCYANATE

CAS no. 822-06-0  
EC no. 212-485-8

#### ACGIH

Hexamethylene diisocyanate  
TWA 0.005 ml/m<sup>3</sup>

### Exposure controls

#### Occupational exposure controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapor below the OEL, suitable respiratory protection must be worn.

### Personal protective equipment

#### Respiratory protection

When spraying: Positive pressure air supplied respirator required (MHSA/NIOSH approved).

For applications other than spraying: In well ventilated areas, air supplied respirators could be replaced by properly fitted combination organic vapor/particulate NIOSH/MHSA approved respirators.

Wear an approved NIOSH/MHSA dust respirator when sanding or abrading the cured and dried film.

#### Hand protection

The following glove(s) should be used for protection :

Appropriate Material butyl rubber

#### Eye protection

Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent).

#### Skin protection

Wear clothing appropriate for handling chemicals. All parts of the body should be washed with soap and water after contact.

#### General protective and hygiene measures

Avoid product contact with skin, eyes and clothing. Avoid the inhalation of dust when sanding or abrading the cured film.

Wash hands with soap and water after use.

## 9.) Physical and chemical properties

### General information

Form liquid  
Color according product name  
Odor characteristic

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## Important health, safety and environmental information

### Changes in physical state

Value no data available

### Flash point

Value 100 °F

### Ignition temperature

Value 788 °F

### Explosion limits

Upper explosion limit 7.5 % vol

Lower explosion limit 0.8 % vol

### Vapor pressure

Value < 0.4 mbar

Reference temperature 68 °F

### Density

Value 8.85 lbs/gallon

Reference temperature 68 °F

### Viscosity

Type Efflux time

Value 36 sec

Method DIN cup 4mm

Reference temperature 68 °F

### Solubility in water

Remarks insoluble

### Solvent content

Value 25 % vol

Solvent separation test

Value < 3 % vol

## 10.) Stability and reactivity

### Conditions to avoid

Stable under recommended storage and handling conditions (See section 7).

### Materials to avoid

Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Exothermal reactions with: Amines; Alcohols; The product reacts slowly with water resulting in evolution of carbon dioxide. In closed containers, pressure build up could result in distortion.

### Hazardous decomposition products

In a fire, hazardous decomposition products such as smoke, carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen cyanide, monomers of isocyanates, amines and alcohols may be produced.

## 11.) Toxicological information

### Experience in practice

The liquid splashed in the eyes may cause irritation and reversible damage.

Sensitization possible through inhalation.

Possibility of sensitization through skin contact.

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## Other information

Based on the properties of the isocyanate components and considering toxicological data on similar preparations: This preparation may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability.

## 12.) Ecological information

### Other adverse effects

Ecological data are not available.

Do not discharge product unmonitored into the environment.

## 13.) Disposal considerations

### Product

Dispose in accordance with federal, state and local regulations.

## 14. Transport information

### US DOT

Class	3
Packaging group	III
Label	FLAMMABLE LIQUID
UN/NA number	UN1866
Technical name	Resin solution

### Marine transport IMDG

Class	3
Packaging group	III
UN number	1866
Proper shipping name	Resin solution
EmS	F-E,S-E
Label	3

### Air transport ICAO/IATA

Class	3
Packaging group	III
UN number	1866
Proper shipping name	Resin solution
Label	3

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## 15.) Regulatory information

### Regulations

#### US Federal Regulations

##### TSCA (Toxic Substances Control Act)

All of the components of this product are either listed on the TSCA Inventory or are not subject to the notification requirements (exempt).

##### Clean Water Act (CWA)

Following ingredients are listed:

CAS-No. 123-86-4

##### OSHA: Hazardous by definition of Hazard Communication Standard ( 29 CFR 1910.1200)

Following ingredients are Hazardous by definition of Hazard Communication Standard:

CAS-No. 28182-81-2; 123-86-4; 822-06-0

##### SARA Section 302 (RQ):

None of the ingredients is listed

##### SARA HAZARD CATEGORY (Section 311/312)

Fire, Health Hazards.

##### SARA Section 313

None of the ingredients is listed.

##### HAPS (Hazardous Air Pollutants) according to Clean Air Act

Following ingredients are listed:

CAS-No. 822-06-0<0.5%

#### State Regulations

##### California Proposition 65

None of the ingredients is listed

##### Pennsylvania HAZARDOUS SUBSTANCE LIST

Following ingredients are listed:

CAS-No. 123-86-4

##### New Jersey Worker and Community Right to Know Act.

Following ingredients are listed:

CAS-No. 123-86-4; 822-06-0<0.5%

#### Other international listings

##### IARC

None of the ingredients is listed in group 1, 2A or 2B.

##### Volatile organic compounds (VOC)

Pound/gallon 2.21

## 16. Other information

### HMIS Classification

Health 2  
Flammability: 2  
Reactivity 1  
PPE G

### NFPA Rating

Health 2  
Fire hazard 2  
Reactivity 1

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### Other information

#### Abbreviations

ACGIH American Conference of Governmental Hygienics  
CAS Chemical Abstracts Service  
HAPS Hazardous Air Pollutants  
HMIS Hazardous Material Identification System  
IARC International Agency for Research on Cancer  
IDLH Immediate Dangerous to Life and Health  
LEL Lower Explosion Limit  
NTP National Toxicology Program  
OEL Occupational Safety and Health Administration  
PEL Permissible Exposure Limit  
PPE Personal Protection Equipment  
SARA Superfund Amendments and Reauthorization Act  
STEL Short-Term Exposure Level (15 minutes)  
TWA Time-Weighted Average (8 hours)  
UEL Upper Explosion Limit  
VOC Volatile Organic Compounds  
WEEL Workplace Environmental Exposure Level

This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product and shall not establish a legally valid relationship.