



SAFETY DATA SHEET

SOLITHANE® S 113

Version: 1.1

Revision Date: 05/19/2015

Print Date: 08/17/2016

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: SOLITHANE® S 113

Product Use Description: Polymer

Company: Chemtura Corporation
199 Benson Road
Middlebury, CT
06749
United States of America

Telephone: (US) +1 866-430-2775

Emergency telephone number: CHEMTREC: (24 hours) 800-424-9300
:
Chemtura Corporation Emergency Response: CHEMTURA : 800-292-5898

For additional emergency telephone numbers see section 16 of the Safety Data Sheet.

Prepared by Product Safety Department
(US) +1 866-430-2775

MSDSRequest@chemtura.com

Recommended use of the chemical and restrictions on use

Recommended use : Polymer

Restrictions on use : Reserved for industrial and professional use.

SECTION 2. HAZARDS IDENTIFICATION

Form	liquid
Colour	light yellow
Odour	pungent

GHS Classification

Acute toxicity (Inhalation) : Category 2
Respiratory sensitisation : Category 1
Skin sensitisation : Category 1
Carcinogenicity : Category 2

GHS Label element

Signal word : **Danger**



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Hazard pictograms

:



Hazard statements

: H317 May cause an allergic skin reaction.
H330 Fatal if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351 Suspected of causing cancer.

Other hazards

: None

Precautionary statements

: **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.
P281 Use personal protective equipment as required.
P284 Wear respiratory protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:

IARC

Group 2B: Possibly carcinogenic to humans

OSHA

toluene-diisocyanate 26471-62-5
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reasonably anticipated to be a human carcinogen

NTP



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toluene-diisocyanate

26471-62-5

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
toluene-diisocyanate	26471-62-5	>= 5 - < 10 %

SECTION 4. FIRST AID MEASURES

- If inhaled : Remove to fresh air.
Give oxygen or artificial respiration if needed.
Get medical attention immediately.
- In case of skin contact : Remove contaminated clothing and shoes.
Wash off with soap and plenty of water.
Obtain medical attention.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids,
for at least 15 minutes.
If symptoms persist, call a physician.
- If swallowed : Get medical attention immediately.
- Most important symptoms and effects, both acute and delayed : Lachrymation
Breathing difficulties
sensitising effects
- Notes to physician : Oxygen, if needed.
For specialist advice physicians should contact the Poisons Information Service.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray
Dry chemical
- Specific hazards during firefighting : Burning produces irritant fumes.
Exposure to decomposition products may be a hazard to health.
- Specific extinguishing methods : Fight fire with normal precautions from a reasonable distance.
If water is used, fog nozzles are preferable.



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Keep away from fire, sparks and heated surfaces.
Use water spray to cool unopened containers.
Do not discharge extinguishing waters into streams, rivers and lakes.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Body covering protective clothing, full "turn-out" gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.
Wear suitable protective equipment.

Environmental precautions : Do not allow contact with soil, surface or ground water.
Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning up : Ventilate the area. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labelled containers. Supplies of suitable decontaminant/commercial decontaminant should always be kept available. Contain and cover the spillage with inert absorbent (sand, earth, vermiculite) and decontaminant/commercial decontaminant. Leave to react for at least 30 minutes. Shovel residues into open-top drums and remove for further decontamination if necessary. Clean area with water and additional decontaminant/commercial decontaminant. Test atmosphere for vapors to ensure safe working conditions before other personnel are allowed in the area. Suitable decontaminant solution: Commercial solution or water 90-95%, concentrated ammonia solution 5-10%, liquid detergent 0,2-2%. Try to contain the spill without any risk. Collect leaking liquid in suitable containers. Neutralize the spill with lime, sodium- or calcium carbonate or sodium bicarbonate. Flush afterwards with plenty of water. Avoid discharge to natural waters and sewers.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice.
Handle and open container with care.
Do not puncture.
Slacken off drum bungs before heating to prevent any pressure build up.
Use only with adequate ventilation.
Avoid inhalation, ingestion and contact with skin and eyes.
Wear suitable protective equipment.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Keep container closed when not in use.



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Allergic reactions may develop after inhalation of low concentrations, also several hours after exposure. Regular medical checks, including lung function, are recommended for long term and repeated use of isocyanates.

Conditions for safe storage : Keep container tightly closed.
Keep in a dry, cool and well-ventilated place.
Keep under nitrogen.
Isocyanate based products react with water liberating carbon dioxide, which can lead to excessive pressure in closed containers, and form solid insoluble polymers, which can block pipes, valves, etc. Contact with copper or copper alloys and galvanized surfaces must be avoided and valves etc made of these materials must not be used in equipment for storing and handling diisocyanates. Do not store in open containers. Damaged or punctured drums should be emptied.

Materials to avoid : Alcohols, Strong oxidizing agents, Water

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
toluene-diisocyanate	26471-62-5	TWA	0.005 ppm	ACGIH
		STEL	0.02 ppm	ACGIH
		C	0.02 ppm 0.14 mg/m3	OSHA Z-1
		TWA	0.005 ppm 0.04 mg/m3	OSHA P0
		STEL	0.02 ppm 0.15 mg/m3	OSHA P0

Engineering measures : Maintain air concentrations below occupational exposure standards.
Ensure that extracted air cannot be returned to the workplace through the ventilation system.
Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Due to the poor warning properties regarding the chemical(s) of concern, negative pressure air purifying respirators are not recommended at any exposure level in excess of the exposure limit values.



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Hand protection	
Remarks	: butyl-rubber
Eye protection	: Safety glasses with side-shields or Safety goggles
Skin and body protection	: impervious clothing
Hygiene measures	: Avoid contact with moisture and prolonged exposure to temperatures above 140°F (60°C). Purge open drums with nitrogen before resealing. Do not use spot heating devices such as band heaters or torches. Make sure contents are completely liquid and uniform before using. (SEE TECHNICAL BULLETIN FOR ADDITIONAL DETAILS) Allergic reactions may develop after inhalation of low concentrations, also several hours after exposure. Regular medical checks, including lung function, are recommended for long term and repeated use of isocyanates.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Color	: light yellow
Odor	: pungent
Odour Threshold	: No data available
pH	: Not applicable
Melting point/range	: Not applicable
Boiling point/boiling range	: No data available
Evaporation rate	: No data available
Flash point	: > 93 °C Method: closed cup
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative density	: 1.073
Density	: No data available
<u>Solubility(ies)</u>	
Water solubility	: No data available



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Solubility in other solvents : soluble
Solvent: Tetrahydrofuran

soluble
Solvent: Dimethylformamide

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available

Thermal decomposition : No data available

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Conditions to avoid : Exposure to moisture.

Incompatible materials : Alcohols
Strong oxidizing agents
Water

Hazardous decomposition products : Carbon oxides
Nitrogen oxides (NO_x)
Hydrocarbons
Isocyanates

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity
toluene-diisocyanate (Component) : LD50: > 5,000 mg/kg
Species: Rat

Acute inhalation toxicity (Product) : Acute toxicity estimate: 1.11 mg/l
Exposure time: 4 h
Method: Calculation method



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Acute dermal toxicity
toluene-diisocyanate
(Component)

: LD50: > 9,400 mg/kg
Species: Rabbit

Skin irritation
toluene-diisocyanate
(Component)

: Species: Rabbit
Result: Severe skin irritation

Eye irritation
toluene-diisocyanate
(Component)

: Species: Rabbit
Result: Risk of serious damage to eyes.

Sensitisation
toluene-diisocyanate
(Component)

: Species: Guinea pig
Classification: May cause sensitisation by skin contact.
Result: Causes sensitisation.

Further information (Product)

: The product itself has not been tested.
The evaluation was performed following the calculation procedure of the preparation directive.
Allergic reactions may develop after inhalation of low concentrations, also several hours after exposure. Regular medical checks, including lung function, are recommended for long term and repeated use of isocyanates.

: The following information is applicable to a component of this material: Allergic reactions may develop after inhalation of low concentrations, also several hours after exposure. Regular medical checks, including lung function, are recommended for long term and repeated use of isocyanates.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish
toluene-diisocyanate
(Component)

: LC50: 147 mg/l
Exposure time: 48 h

Species: Pimephales promelas (fathead minnow)

LC50: 133 mg/l
Exposure time: 96 h

Species: Oncorhynchus mykiss (rainbow trout)



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Toxicity to daphnia and other aquatic invertebrates
toluene-diisocyanate : LC50: > 508 mg/l
(Component) Exposure time: 48 h
Species: Grass shrimp (Palaemonetes pugio)

EC50: 12.5 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Toxicity to algae
toluene-diisocyanate : EC50: 4,300 mg/l
(Component) Exposure time: 96 h
Species: Chlorella vulgaris (Fresh water algae)

Elimination information (persistence and degradability)

Bioaccumulation (Product) : Remarks:
No data available

Mobility (Product) : Remarks:
No data available

Biodegradability (Product) : Result: No data available

Further information on ecology

Ecotoxicology Assessment

Results of PBT assessment (Product)

This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

Additional ecological : There is no data available for this product.

information (Product)
(Product)

: The product itself has not been tested.
The following information is applicable to a component of this material:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Waste must be classified and labelled prior to recycling or disposal.
In well ventilated area, fill drums with several centimeters of water. Leave drum open and slowly shake and roll to allow water contact. Leave open to air for sufficient time to cure. Dispose of waste product or used containers according



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to local regulations.
Do not contaminate ponds, waterways or ditches with
chemical or used container.

SECTION 14. TRANSPORT INFORMATION

DOT

UN number : 2206
Description of the goods : Isocyanates, toxic, n.o.s.
(toluene-diisocyanate)
Class : 6.1
Packing group : III
Environmentally hazardous : no

IATA

UN number : 2206
Description of the goods : Isocyanates, toxic, n.o.s.
(toluene-diisocyanate)
Class : 6.1
Packing group : III
Environmentally hazardous : no

IMDG

UN number : 2206
Description of the goods : ISOCYANATES, TOXIC, N.O.S.
(toluene-diisocyanate)
Class : 6.1
Packing group : III
EmS Number 1 : F-A
EmS Number 2 : S-A
Marine pollutant : no

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
toluene-diisocyanate	26471-62-5	100	1111



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SARA304 Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:
toluene-diisocyanate 26471-62-5

California Prop 65 WARNING! This product contains a chemical known to the State of California to cause cancer.
toluene-diisocyanate 26471-62-5

The components of this product are reported in the following inventories:

US.TSCA	On TSCA Inventory
DSL	All components of this product are on the Canadian DSL.
AICS	On the inventory, or in compliance with the inventory
NZIoC	Not in compliance with the inventory
ENCS	On the inventory, or in compliance with the inventory
KECI	On the inventory, or in compliance with the inventory
PICCS	Not in compliance with the inventory
IECSC	On the inventory, or in compliance with the inventory
CH INV	The formulation contains substances listed on the Swiss Inventory

SECTION 16. OTHER INFORMATION

Further information

Other Emergency Phone Number

<u>Latin America:</u>	Brazil	+55 113 711 9144
	All other countries	+44 (0) 1235 239 670
<u>Mexico:</u>		+52 555 004 8763

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.