

Material Safety Data Sheet

1. Product and company identification

Product code : 500100 , 15-01620 and 15-01624
Product name : Blanket Hardener
Material uses : Printing.
Manufacturer : Sun Chemical Corporation
631 Central Avenue
Carlstadt, NJ 07072
In case of emergency : (800) 424-9300 (U.S.)
(703) 527-3887 (International)
Regulatory information : Canada: (905) 796-2222
US: (201) 933-4500
Other information : (513) 830-8500
Date of revision : 6/2/2009.

2. Hazards identification

Physical state : Liquid.
Color : Blue.
OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview : WARNING I
HARMFUL IF SWALLOWED.
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN.
CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING
ORGANS: BLOOD, KIDNEYS, LIVER, MUCOUS MEMBRANES, HEART,
GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS
SYSTEM, EYE, LENS OR CORNEA.
POSSIBLE CANCER HAZARD
CONTAINS MATERIAL WHICH CAN CAUSE CANCER
Routes of entry : Dermal contact. Inhalation.
Potential acute health effects
Eyes : Irritating to eyes.
Skin : Harmful in contact with skin. Irritating to skin. May cause sensitization by skin contact.
Inhalation : Irritating to respiratory system.
Ingestion : Toxic if swallowed.
Carcinogenic effects : Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.
Mutagenic effects : No known significant effects or critical hazards.
Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

2. Hazards identification

Medical conditions aggravated by over-exposure : Pre-existing skin and digestive disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

3. Composition/information on ingredients

<u>Hazardous ingredients</u>	<u>CAS number</u>	<u>%</u>
Xylene	1330-20-7	25 - 40
Light Aliphatic Solvent Naphtha	64742-89-8	10 - 25
Ethyl Benzene	100-41-4	10 - 25
n-Butyl Acetate	123-86-4	10 - 25
Methyl Isobutyl Ketone	108-10-1	5 - 10
Ethylene Glycol Monopropyl Ether	2807-30-9	5 - 10
Methyl Alcohol	67-56-1	2.5 - 5
Toluene	108-88-3	2.5 - 5
Hexylene Glycol	107-41-5	1 - 2.5

4. First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.
- Skin contact** : Get medical attention immediately. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Continue to rinse for at least 10 minutes. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Inhalation** : Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Ingestion** : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing or wear gloves.

5 . Fire-fighting measures

- Flammability of the product** : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
- Products of combustion** : Decomposition products may include the following materials:
carbon oxides
- Extinguishing media**
- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Flammability (OSHA criteria)** : IB
- Flash point** : Closed cup: 3°C (37.4°F)

6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

7 . Handling and storage

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

<u>Product name</u>	<u>Exposure limits</u>
Xylene	ACGIH TLV (United States, 1/2008). STEL: 651 mg/m ³ 15 minute(s). STEL: 150 ppm 15 minute(s). TWA: 434 mg/m ³ 8 hour(s). TWA: 100 ppm 8 hour(s).
Ethyl Benzene	ACGIH TLV (United States, 1/2008). STEL: 125 ppm 15 minute(s). TWA: 100 ppm 8 hour(s).
n-Butyl Acetate	ACGIH TLV (United States, 1/2008). STEL: 200 ppm 15 minute(s). TWA: 150 ppm 8 hour(s).
Methyl Isobutyl Ketone	ACGIH TLV (United States, 1/2008). STEL: 307 mg/m ³ 15 minute(s). STEL: 75 ppm 15 minute(s). TWA: 205 mg/m ³ 8 hour(s). TWA: 50 ppm 8 hour(s).
Methyl Alcohol	ACGIH TLV (United States, 1/2008). Skin STEL: 328 mg/m ³ 15 minute(s). STEL: 250 ppm 15 minute(s). TWA: 262 mg/m ³ 8 hour(s). TWA: 200 ppm 8 hour(s).
Toluene	ACGIH TLV (United States, 1/2008). TWA: 20 ppm 8 hour(s).
Hexylene Glycol	ACGIH TLV (United States, 1/2008). C: 121 mg/m ³ C: 25 ppm

Consult local authorities for acceptable exposure limits.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Personal protection

- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

8 . Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state : Liquid.
Color : Blue.
Boiling/condensation point : Lowest known value: 64°C (148°F)
Melting/freezing point : May start to solidify at the following temperature: -26.2°C (-15.2°F) This is based on data for the following ingredient: xylene. Weighted average: -55.37°C (-67.7°F)
Flash point : Closed cup: 3°C (37.4°F)
VOC : 96%
Auto-ignition temperature : Lowest known value: 269.85°C (517.7°F) (Hexylene Glycol).
Density : 0.833 g/cm³ (6.9517 lbs/gal)
Vapor density : Highest known value: 4.07 (Air = 1) (Hexylene Glycol). Weighted average: 3.06 (Air = 1)
Evaporation rate : Highest known value: 2.1 (methanol) Weighted average: 1 compared with Butyl acetate.
Critical temperature : Lowest known value: 298.4°C (569.1°F) (Methyl Isobutyl Ketone).

10 . Stability and reactivity

Stability and reactivity : The product is stable.
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Reactivity - Light : Not applicable.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Methyl Isobutyl Ketone	LD Dermal	Rabbit	>3 gm/kg	-
	LD50	Rat	400 mg/kg	-
	Intraperitoneal			
	LD50 Oral	Rat	2080 mg/kg	-
	LD50 Oral	Rat	4600 mg/kg	-
xylene	TDLo Oral	Rat	500 mg/kg	-
	LD50 Dermal	Rabbit	>1700 mg/kg	-
	LD50	Rat	2459 mg/kg	-
	Intraperitoneal			
	LD50 Oral	Rat	4300 mg/kg	-
	LD50	Rat	1700 mg/kg	-
	Subcutaneous			
Ethyl Benzene	LC50 Inhalation	Rat	5000 ppm	4 hours
	Gas.			
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Dermal	Rabbit	17800 uL/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
n-butyl acetate	TDLo	Rat	1062 mg/kg	-
	Intraperitoneal			
	LC50 Inhalation	Rat	55000 mg/m ³	2 hours
	Vapor			
	LD50 Dermal	Rabbit	>17600 mg/kg	-

11 . Toxicological information

	LD50 Oral	Rat	10768 mg/kg	-
	LC50 Inhalation	Rat	390 ppm	4 hours
	Gas.			
toluene	LD50 Dermal	Rabbit	14100 uL/kg	-
	LD50	Rat	1332 mg/kg	-
	Intraperitoneal			
	LD50 Intravenous	Rat	1960 mg/kg	-
	LD50 Oral	Rat	636 mg/kg	-
	LD50 Unreported	Rat	6900 mg/kg	-
	LDLo	Rat	2.5 mL/kg	-
	Intraperitoneal			
	TDLo Oral	Rat	400 mg/kg	-
	TDLo	Rat	900 mg/kg	-
	Intraperitoneal			
	TDLo	Rat	750 mg/kg	-
	Intraperitoneal			
	TDLo	Rat	1 gm/kg	-
	Intraperitoneal			
	TDLo	Rat	750 mg/kg	-
	Intraperitoneal			
	TDLo	Rat	600 mg/kg	-
	Intraperitoneal			
	TDLo Oral	Rat	800 mg/kg	-
	LC50 Inhalation	Rat	49 gm/m3	4 hours
	Vapor			
Ethylene Glycol Monopropyl Ether	LD50 Dermal	Rabbit	960 uL/kg	-
	LD50 Oral	Rat	3090 mg/kg	-
	LD50 Oral	Rat	3089 mg/kg	-
Hexylene Glycol	LD50 Dermal	Rabbit	8560 uL/kg	-
	LD50 Oral	Rat	3700 mg/kg	-
	LDLo	Rat	1500 mg/kg	-
	Intraperitoneal			
	LC50 Inhalation	Rat	>310 mg/m3	1 hours
	Vapor			
methanol	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50	Rat	7529 mg/kg	-
	Intraperitoneal			
	LD50 Intravenous	Rat	2131 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
	TDLo Oral	Rat	8 gm/kg	-
	TDLo Oral	Rat	3500 mg/kg	-
	TDLo	Rat	3490 mg/kg	-
	Intraperitoneal			
	TDLo	Rat	3000 mg/kg	-
	Intraperitoneal			
	TDLo Oral	Rat	3 gm/kg	-
	LC50 Inhalation	Rat	64000 ppm	4 hours
	Gas.			

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
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11 . Toxicological information

xylene	A4	3	-	-	-	-
Ethyl Benzene	A3	2B	-	-	-	-
n-butyl acetate	A4	-	-	-	-	-
toluene	A4	3	-	-	-	-

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability


Conclusion/Summary : Not available.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.
Empty containers or liners may retain some product residues.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Class	PG*	Label	Additional information
DOT Classification	UN1993	Flammable Liquid, N.O.S. (Contains Petroleum Distillates)	3	II		-

PG* : Packing group

15 . Regulatory information

HCS Classification : Flammable liquid
Toxic material
Irritating material
Sensitizing material
Carcinogen
Target organ effects

TSCA 8(b) inventory : Listed

U.S. Federal regulations : TSCA 4(a) dioxins/furanes testing: No products were found.
TSCA 4(a) final testing order: No products were found.
TSCA 4(a) final test rules: Methyl Isobutyl Ketone

15 . Regulatory information

TSCA 4(a) ITC priority list: No products were found.
 TSCA 4(a) proposed test rules: No products were found.
 TSCA 5(a)2 final significant rules: No products were found.
 TSCA 5(a)2 proposed significant rules: No products were found.
 TSCA 5(e) substance consent order: No products were found.
 TSCA 6 final risk management: No products were found.
 TSCA 6 proposed risk management: No products were found.
 TSCA 8(a) CAIR: No products were found.
 TSCA 8(a) chemical risk rules: No products were found.
 TSCA 8(a) dioxin/furan precursor: No products were found.
 TSCA 8(a) IUR: No products were found.
 TSCA 8(a) PAIR: No products were found.
 TSCA 8(c) calls for record of SAR: No products were found.
 TSCA 8(d) H and S data reporting: No products were found.
 TSCA 12(b) annual export notification: No products were found.
 TSCA 12(b) one-time export: No products were found.
 TSCA precursor chemical list: No products were found.
 TSCA commerce control list: No products were found.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: methanol; Hexylene Glycol; toluene; n-butyl acetate; Ethyl Benzene; xylene; Methyl Isobutyl Ketone

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
 methanol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Hexylene Glycol: Immediate (acute) health hazard; toluene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; n-butyl acetate: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Ethyl Benzene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; xylene: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Methyl Isobutyl Ketone: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: toluene; Ethyl Benzene

Clean Water Act (CWA) 311: toluene; n-butyl acetate; Ethyl Benzene; xylene

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Supplier notification	: Xylene (Mixed Isomers)	1330-20-7	39.9
	Ethylbenzene	100-41-4	11.918
	Methyl Isobutyl Ketone	108-10-1	5.6421
	Glycol Ethers	2807-30-9	5.4023
	Methanol	67-56-1	4.7853
	Toluene	108-88-3	3.3656

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

CONEG : In compliance.

International lists

15 . Regulatory information

International lists : **Australia inventory (AICS):** Not determined.
China inventory (IECSC): Not determined.
Korea inventory (KECI): Not determined.
Philippines inventory (PICCS): Not determined.
Japan inventory (ENCS): Not determined.

Canada inventory: Not determined.
Europe inventory: Not determined.

New Zealand Inventory (HASNO) : Not determined.

16 . Other information

Label requirements : FLAMMABLE LIQUID AND VAPOR. HARMFUL IF SWALLOWED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. POSSIBLE CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER, BASED ON ANIMAL DATA.

Hazardous Material Information System (U.S.A.) :

Health	*	2
Fire hazard		3
Reactivity		0

Personal protection

Version : 2.22

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.