

SAFETY DATA SHEET

Chem-Set Substrate Bonder 5000-SB

Issued: February 25, 2023 Revision: 2

SECTION 1: Identification

1.1. Identificatio	n
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1.1. Identification	
Product form	: Mixture
Product name	: Chem-Set Substrate Bonder 5000-SB

1.2. Recommended use and restrictions on use

Recommended use Restrictions on use

1.3. Supplier : Adhesives, sealants : No additional information available

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In Case of Emergency Contact INFOTRAC: 800-535-5053

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS classification

Skin corrosion/irritation, Category 2	H3
Serious eye damage/eye irritation, Category 2A	H3
Respiratory sensitisation, Category 1	H3
Skin sensitisation, Category 1	H3
Carcinogenicity, Category 2	H3
Specific target organ toxicity — Repeated exposure, Category 2	H3

- 315 Causes skin irritation.
- 319 Causes serious eye irritation.
- 334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- 317 May cause an allergic skin reaction.
- 351 Suspected of causing cancer.
- 373 May cause damage to organs through prolonged or repeated exposure.

Full text of H statements see section 16

GHS Label elements, including precautionary statements 2.2.

GHS-US labelling

Hazard pictograms (GHS)

	▼
Signal word (GHS)	: Danger
Hazard statements (GHS US)	 H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation. H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. H351 - Suspected of causing cancer. H373 - May cause damage to organs through prolonged or repeated exposure.
Precautionary statements (GHS)	 P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe mist, spray, vapours. P261 - Avoid breathing mist, spray, vapours. P264 - Wash hands, forearms and face thoroughly after handling. P272 - Contaminated work clothing must not be allowed out of the workplace. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P284 - [In case of inadequate ventilation] wear respiratory protection. P302+P352 - If on skin: Wash with plenty of water. P304+P341 - If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - If exposed or concerned: Get medical advice/attention. P314 - Get medical advice/attention if you feel unwell. P321 - Specific treatment (see supplemental first aid instruction on this label).
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P332+P313 - If skin irritation occurs: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P342+P311 - If experiencing respiratory symptoms: Call a poison center or doctor.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS_US)

9.41% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS classification
4,4'Methylene bisphenyl isocyanate	(CAS-No.) 101-68-8	5 - 15	Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373
Hydroxy terminated poly(oxylalkyated) polyol	(CAS-No.) 102-60-3	1 - 10	Eye Irrit. 2A, H319
Polyoxypropylenediamine AC3	(CAS-No.) 9046-10-0	0.5 - 1.5	Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures	
First-aid measures general	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.
First-aid measures after skin contact	Wash skin thoroughly with mild soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.
4.2. Most important symptoms and effects	(acute and delayed)
Symptoms/effects :	 May cause damage to organs through prolonged or repeated exposure. Suspected of causing cancer.
Symptoms/effects after inhalation :	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact	Causes skin irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	Causes serious eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures		
5.1. Suitable (and unsuitable) extinguishi	ng media	
Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.	
Unsuitable extinguishing media	: Do not use a heavy water stream.	

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5.2. Specific hazards arising fro	m the chemical
Fire hazard	: Burning produces irritating, toxic and noxious fumes.
Explosion hazard	: Heat may build pressure, rupturing closed containers.
Reactivity	: No dangerous reactions known.
5.3. Special protective equipme	nt and precautions for fire-fighters
Firefighting instructions	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing.	
SECTION 6: Accidental release	e measures
6.1. Personal precautions, protective equipment and emergency procedures	

General measures	: Do not get in eyes, on skin, or on clothing. Do not breathe vapour. Ensure adequate ventilation. No open flames. No smoking. Remove ignition sources. Use personal protective equipment as required.	
6.1.1. For non-emergency personnel		
Protective equipment	: Refer to section 8.2.	
Emergency procedures	: Evacuate unnecessary personnel.	
6.1.2. For emergency responders		
Protective equipment	: Refer to section 8.2.	
Emergency procedures	: Ventilate area.	
6.2. Environmental precautions		
Prevent entry to sewers and public waters.		
6.3. Methods and material for containing	ent and cleaning up	
For containment	 Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. 	
Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.	

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage			
7.1. Precautions for safe handling			
Precautions for safe handling	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Do not breathe vapours. Do not get in eyes, on skin, or on clothing.		
Hygiene measures	: Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product.		
7.2. Conditions for safe storage, including any incompatibilities			
Storage conditions	: Keep only in the original container in a cool well ventilated place. Keep container tightly closed.		
Incompatible products	: Strong bases. Strong acids. Strong oxidizers. Water. alcohols. Amides. Phenols. Metal compounds. Mercaptans. zinc.		
Incompatible materials	: Sources of ignition. Direct sunlight.		

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

4,4'Methylene bisphenyl isocyanate (101-68-8)			
ACGIH	Local name	Methylene bisphenyl isocyanate (MDI)	
ACGIH	ACGIH TWA (mg/m³)	0.051 mg/m³	
ACGIH	ACGIH TWA (ppm)	0.005 ppm	
ACGIH	Remark (ACGIH)	TLV® Basis: Resp sens	

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4,4'Methylene bisphenyl isocyanate (101-68-8)			
ACGIH	Regulatory reference	ACGIH 2020	
OSHA	OSHA PEL (Ceiling) (mg/m ³)	0.2 mg/m ³	
OSHA	OSHA PEL (Ceiling) [ppm]	0.02 ppm	
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1	
IDLH	US IDLH (mg/m³)	75 mg/m³	
NIOSH	NIOSH REL (TWA) (mg/m³)	0.05 mg/m³	
NIOSH	NIOSH REL (TWA) [ppm]	0.005 ppm	
NIOSH	NIOSH REL (ceiling) (mg/m ³)	0.2 mg/m ³	
NIOSH	NIOSH REL (Ceiling) [ppm]	0.02 ppm	
Hydroxy terminated poly(oxylalkyated) polyol (102-60-3)			
Not applicable			
Polyoxypropylenediamine AC3 (9046-10-0)			
Not applicable			

8.2. Appropriate engineering controls

Appropriate engineering controls

Environmental exposure controls

- Avoid creating mist or spray. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use only in well ventilated areas.
 Avoid release to the environment. Prevent leakage or spillage.
- . Avoid release to the environment. Prevent leakage of sp

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear suitable gloves resistant to chemical penetration. Latex gloves. Chloroprene rubber. Breakthrough time is > 480 minutes. Nitrile rubber. Breakthrough time: 60 min

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of inadequate ventilation wear respiratory protection. If excessive exposure exists, use only approved air-purifying or supplied air respirator operated in a positive pressure mode

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties		
9.1. Information on basic physic	al and chemical properties	
Physical state	: Liquid	
Appearance	: Viscous.	
Colour	: straw	
Odour	: Solvent	
Odour threshold	: No data available	
рН	: No data available	
Melting point	: No data available	
Freezing point	: No data available	
Boiling point	: No data available	
Flash point	: No data available	

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Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available



9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizers. Water. alcohols. Amides. Phenols. Metal compounds. Mercaptans. zinc.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Nitrogen oxides.

SECTION 11: Toxicological information		
11.1. Information on toxicological effects		
Acute toxicity (oral) :	Not classified	
Acute toxicity (dermal) :	Not classified	
Acute toxicity (inhalation) :	Not classified	
Unknown acute toxicity (GHS_US) 9.41% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))		
4,4'Methylene bisphenyl isocyanate (101-68-8)		
LD50 oral rat	> 10000 mg/kg	
LD50 dermal rat	> 9400 mg/kg	
ATE (gases)	4500 ppmv/4h	
ATE (vapours)	11 mg/l/4h	
ATE (dust,mist)	1.5 mg/l/4h	
Hydroxy terminated poly(oxylalkyated) polyol (102-60-3)		
LD50 oral rat	2890 mg/kg bodyweight	
LD50 dermal rat	> 2000 mg/kg bodyweight	
ATE (oral)	2890 mg/kg bodyweight	
Polyoxypropylenediamine AC3 (9046-10-0)		
LD50 oral rat	2885 mg/kg	
LD50 dermal rabbit	2980 mg/kg	

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Polyoxypropylenediamine AC3 (9046-10-0)	
LC50 Inhalation - Rat	> 0.74 mg/l/4h
ATE (oral)	2885 mg/kg bodyweight
ATE (dermal)	2980 mg/kg bodyweight
Skin corrosion/irritation :	Causes skin irritation.
Serious eye damage/irritation :	Causes serious eye irritation.
Respiratory or skin sensitisation :	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity :	Not classified
Carcinogenicity :	Suspected of causing cancer.
4,4'Methylene bisphenyl isocyanate (101-68-8)	
IARC group	3 - Not classifiable
Reproductive toxicity	Not classified
STOT-single exposure	Not classified
4,4'Methylene bisphenyl isocyanate (101-68-8)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
4,4'Methylene bisphenyl isocyanate (101-68-8)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard :	Not classified
Viscosity, kinematic	No data available
Likely routes of exposure	Inhalation. Skin and eye contact.
Symptoms/effects :	May cause damage to organs through prolonged or repeated exposure. Suspected of causing cancer.
Symptoms/effects after inhalation :	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact :	Causes skin irritation. May cause an allergic skin reaction.

SECTION 12: Ecological information

12.1. Toxicity

4,4'Methylene bisphenyl isocyanate (101-68-8)		
LC50 fish 1	1000 mg/l	
EC50 crustacea	1000 mg/l	
NOEC chronic crustacea	10 mg/l	
NOEC chronic algae	1640 mg/l	
Polyoxypropylenediamine AC3 (9046-10-0)		
LC50 fish 1	> 15 mg/l	
EC50 crustacea	80 mg/l	

12.2. Persistence and degradability

Polyoxypropylenediamine AC3 (9046-10-0)		
0 %		
2.3. Bioaccumulative potential		
Substrate Bonder		
Not established.		
4,4'Methylene bisphenyl isocyanate (101-68-8)		
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12.4. Mobility in soil Substrate Bonder Ecology - soil Not established. 12.5. Other adverse effects

Other information

: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. **Disposal methods**

Sewage disposal recommendations	:	Do not dispose of waste into sewer.
Waste disposal recommendations	:	Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	:	Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated.

Transport by sea

Not regulated.

Air transport

Not regulated.

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

4,4'Methylene bisphenyl isocyanate (101-68-8)		
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)		
Listed on EPA Hazardous Air Pollutant (HAPS)		
CERCLA RQ	5000 lb	
Polyoxypropylehediamine AC3 (9046-10-0)		
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).	

15.2. International regulations

CANADA

4,4'Methylene bisphenyl isocyanate (101-68-8)
Listed on the Canadian DSL (Domestic Substances List) inventory.
Hydroxy terminated poly(oxylalkyated) polyol (102-60-3)
Listed on the Canadian DSL (Domestic Substances List) inventory.
Polyoxypropylenediamine AC3 (9046-10-0)
Listed on the Canadian DSL (Domestic Substances List) inventory.
EU-Regulations

4,4'Methylene bisphenyl isocyanate (101-68-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Hydroxy terminated poly(oxylalkyated) polyol (102-60-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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Polyoxypropylenediamine AC3 (9046-10-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

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4,4'Methylene bisphenyl isocyanate (101-68-8)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Chinese Catalog of Hazardous Chemicals. Listed on the AICS (Australian Inventory of Chemical Substances) CSCL: Japanese Chemical Substances Control Law Listed on KECL/KECI (Korean Existing Chemicals Inventory) Listed on NZIoC (New Zealand Inventory of Chemicals) Mexico - National Inventory of Chemical Substances Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Hydroxy terminated poly(oxylalkyated) polyol (102-60-3)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on KECL/KECI (Korean Existing Chemicals Inventory) Listed on Taiwan National Chemical Inventory Listed on the AICS (Australian Inventory of Chemical Substances) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on NZIoC (New Zealand Inventory of Chemicals)
Polyoxypropylenediamine AC3 (9046-10-0)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Exempt from the United States Toxic Substances Control Act (TSCA) inventory. Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on Taiwan National Chemical Inventory Listed on Taiwan National Chemical Inventory of Chemicals and Chemical Substances) Listed on the AICS (Australian Inventory of Chemical Substances) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on KECL/KECI (Korean Existing Chemicals Inventory)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

Component	State or local regulations
4,4'Methylene bisphenyl isocyanate(101-68-8)	U.S Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date	: February 25, 2023
Data sources	REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. European Chemicals Agency (ECHA) C&L Inventory database. Accessed at http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition. Manufacturer Information. United Nations Economic Commission for Europe: About the GHS. Accessed at http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html.
Other information	: None.
Full text of H-statements:	

H314	Causes severe skin burns and eye damage.	
H315	Causes skin irritation.	
H317	May cause an allergic skin reaction.	
H318	Causes serious eye damage.	

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H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Abbreviations and acronyms:

		ATE: Acute Toxicity Estimate
		CAS (Chemical Abstracts Service) number
		CLP: Classification, Labelling, Packaging.
		EC50: Environmental Concentration associated with a response by 50% of the test population.
		GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
		European List of Waste (LoW) code
		LD50: Lethal Dose for 50% of the test population
		TWA: Time Weighted Average
		STEL: Short Term Exposure Limits
		PBT: Persistent, Bioaccumulative, Toxic
		WEL: Workplace Exposure Limit
	vPvB	Very Persistent and Very Bioaccumulative
NFPA health hazard		: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
NFPA fire hazard		: 1 - Materials that must be preheated before ignition can occur.
NFPA reactivity		: 0 - Normally stable, even under fire exposure conditions, and not reactive with water.

Indication of changes: Regulatory information.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.



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