

24 Seven Gardener AB	Material Safety Data Sheet	Date of Establishment	2016.02.10
		Date of Revision	2017.02.20

1. Chemical Product and Company Identification

A. Product Name:	SB-100H
B. Color:	Transparent light yellow
C. General Characteristics:	Permeable mortar
D. Purpose of Product:	Mortar material
E. Manufacturer/Supplier:	
1) Name of Manufacture:	24 Seven Gardener AB
2) Address:	Box 788, SE-224 57, Lund, Sweden
3) Information Provision Service and Emergency Telephone Number:	+46 10 456 6700 (Giftinformationscentralen)
4) Department in Charge	Research Institute (Attached) Same as manufacturer
5) Supplier/Distributor	24 Seven Gardener AB, Box 788, SE-224 57, Lund, Swden
6) Date of Preparation	2016.02.10

2. Hazards Identification

A. Classification of Hazards	Metal corrosion material:	Class 3
	Acute toxicity (digestion):	Class 4
	Acute toxicity (skin contact):	Class 3
	Acute toxicity (inhalation, gas):	Class 4
	Aquatic environmental hazard (chronic):	Class 3

B. Warning Signs Including Precautionary statements

Hazard pictograms:



Signal word: Danger

Hazard statements:

H290 Can cause corrode metal
H302 Dangerous when swallowed
H311 Toxic to skin when contacted
H332 Dangerous when inhaled
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

Prevention	<p>P234 Store only initially designated containers</p> <p>P261 Avoid breathing dust/fume/gas/mist/vapours/spray.</p> <p>P264 Wash thoroughly after handling.</p> <p>P270 Do not ingest, drink, or inhale this product while using.</p> <p>P271 Handle only outdoors or where ventilation is good.</p> <p>P273 Avoid release to the environment.</p> <p>P280 Wear protective gloves and eye protection.</p>
Response	<p>P301+P312 When you feel uncomfortable from swallowing, Get medical advice/attention</p> <p>P302+P352 IF ON SKIN: wash with plenty of soap and water.</p> <p>P304+P340 In case of inhaling, move to fresh air and take an comfortable posture for breathing.</p> <p>P312 If feeling uncomfortable, Get medical advice/attention</p> <p>P322 Take a necessary action.</p> <p>P330 Wash mouth out</p> <p>P361 Take off all contaminated clothing or remove them</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P390 Absorb spilled matter to prevent it from damaging an object</p>
Storage	<p>P405 Store where a lock is equipped.</p> <p>P406 Because it is corrosive, store in in anti-corrosive container.</p>
Disposal	<p>P391 Collect spillage.</p> <p>P501 Dispose of contents/container to a waste disposal facility in accordance with related laws.</p>

3. Composition and Information on Ingredients

Ingredient	Other Name (Trivial Name)	CAS NO.	Weight Percent (%)
Benzyl alcohol	Phenylmethyl alcohol	100-51-6	55~65
1,3-Cyclohexanedimethanamine	***	2579-20-6	35~45
SI (Trade Secret)			5~10

4. First Aid Measures

A. After eye contact:	<p>Do not rub eye.</p> <p>Flush eyes with a lot of water for at least fifteen minutes.</p>
B. After skin contact:	<p>Take off contaminated clothing and wash the affected area with soap and water at least 15 minutes.</p> <p>Wash polluted clothing thoroughly before reuse.</p>
C. After inhaling;	<p>Get medical advice/attention</p> <p>Prevent it from spreading on skin</p> <p>If exposed to a large amount of vapor or mist, move to fresh air.</p> <p>Get necessary attention.</p>

- D. After swallowing: In case breathing is irregular or stops, conduct CPR and supply air
Get medical advice if necessary to induce artificial vomiting. Wish mouth with water immediately.
- E. Other doctor's instructions Inform medical staffs of the situation of pollution so that they can also take a necessary and suitable preventive action.

5. Fire and Explosion Data

- A. Extinguishing media:
- Suitable Extinguishing media: Use power extinguishing media, water.
 - Unsuitable Extinguishing media: Do not use water jet or flooding amount of water.
- B. Special hazards arising from the substance or mixture:
- It can corrode metal.
 - While burning, pungent and very toxic gas can be generated by pyrolysis and combustion.
 - A container can explode while heated.
 - Some can burn, but are not easily ignited.
 - Toxicity: can cause serious damage and death when inhaled, digested, contacted with skin.
- C. Protective equipment and preventive measures:
- When contacting with an applicable material, it can cause serious burn on skin and eyes. If possible (without danger), move the container out of fire zone. Restrict anyone other than permitted from access to danger zone. Call a firehouse and inform them of fire location and particulars. If fire is in large scale, use unmanned water resistant device. When a situation does not allow to do so, step back and let it burn. Do not inhale the material itself or things from combustion.

6. Accidental Release Measures

- A. Personal precautions, protective equipment and emergency procedures:
- Ventilate it before entering a closed space.
 - Move the container from spilled area to a safe zone
 - Turn off all sources of ignition.
 - Wear appropriate protective gears and handle damaged containers and exposed matters. Do not water-jet directly to spilled liquid or exposed area.
- B. Environmental precautions:
- Block releases from flowing into sewerage arrangements and water system.
 - When it is release of large amount, report to 119, Ministry of Environment, Regional Environmental Management Office, and/or city hall or provincial office (Environment Control Department).
- C. Methods and material for containment and cleaning up:
- Small spill
 - Have sand or other nonflammable materials absorb spills.
 - Wipe out solvent.
 - Build embankment for following handling.

Large spill

Prevent spilled waste from flowing into waterway, drain, and/or underground water.
 Avoid a low land and position oneself facing against wind.
 Build and manage embankment for handling spilled material.
 If the spill is over allowable limit, inform the central government and/or local government of the release and spill.
 Handle spill in accordance with Wastes Control Act (Ministry of Environment).
 Collect and put the spilled material into an appropriate container for disposal.

7. Handling and Storage

A. Precautions for safe handling:

Keep away from direct physical contact.
 Handle in accordance with current laws and regulations.
 Do not handle until you are familiar with all safety instructions
 Wear work uniform and boots that can prevent static electricity
 Do not inhale steam for long and repeatedly.

B. Information about safe storage

Avoid contact with strong oxidizing agent
 Store where it is cool and ventilates well.
 Do not use a damaged container.
 Store in accordance with current laws and regulations.
 Be aware of materials and condition not compatible with the concerned material.
 Seal it when not in use.
 Do not store in a metal container.
 Collect and store in a well-closed container.
 Store away from water supply and sewer.
 Do not eat or drink while handling

8. Exposure Controls/Personal Protection

A. Exposure limit control (chemical, biological, etc.)

Domestic regulations	N/A
ACGIH(TLV)	N/A
Biological exposure limit	N/A

B. Personal protective equipment:

Respiratory protective equipment:	They are necessary if they are often used or exposed much. Respiratory protection is classified from minimum to maximum concentration. Be familiar with warning instructions before use. They include gas mask, direct-connection small gas mask, air-filtered respiratory protective gears, air supplied respirator, air inhalator
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Eye protection

Wear protective goggles or glasses from scatters or harmful liquid
 Install emergency washing facility (shower type) near workplace

Hand protection

Wear appropriate anti-chemical protective gloves

Body protection

Wear appropriate anti-chemical protective clothing

9. Physical and Chemical Properties

A. Appearance:	Light yellow liquid
B. Odor:	N/A
C. PH-Value:	N/A
D. Melting Point/Freezing Point:	N/A
E. Initial Boiling Point and Range:	N/A
F. Flashing Point:	104 °C
G. Evaporating Rate:	N/A
H. Flammability:	N/A
I. Flammable Limits:	N/A
J. Vapor Pressure:	N/A
K. Solubility:	N/A
L. Vapor Density:	N/A
M. Sp.gr:	1.05(water=1)
N. Partition Coefficient of n-octanol/water:	N/A
O. Auto-ignition temperature:	N/A
P. Water Content	0.0001
Q. Viscosity:	150 ~ 250 centipoise (at 25 °C)
R Molecular Weight (Mw):	N/A

10. Stability and Reactivity Data

A. Chemical Stability:	Stable under normal storage and handling conditions. Do not generate harmful polymerization
B. Conditions to Avoid:	Avoid incompatible materials and conditions
C. Incompatible Materials:	Avoid contact with strong oxidizing agent
D. Hazardous Decomposition Products:	N/A

11. Toxicological Information

1) Benzyl alcohol & 1,3-Cyclohexanedimethanamine

A. Information on the likely routes of exposure

Inhalation	N/A
Ingestion	N/A
Skin contact	N/A
Eye contact	N/A

B. Description of the delayed, immediate, or chronic effects from short- and long-term exposure

Acute toxicity	
Ingestion	- ATE MIX : 300mg/kg ~ 2,000mg/kg [Benzyl alcohol] : LD50 = 1,230 mg/kg Rat [1,3-Cyclohexanedimethanamine] : LD50 = 880 mg/kg Rat
Percutaneous (through skin)	- ATE MIX : 50mg/kg ~ 300mg/kg [Benzyl alcohol] : LD50 = 2,000 mg/kg Rabbit [1,3-Cyclohexanedimethanamine] : LD50 = 100 mg/kg Rat
Inhalation	- ATE MIX : N/A [Benzyl alcohol] : LC50 = 0.9 mg/l 4hr Rat

Skin corrosion or irritation	N/A
Severe eye damage and irritation	N/A
Inhalation hypersensitivity	N/A
Skin hypersensitivity	N/A
Carcinogens	
Ministry of Environment	
Toxic Chemicals Control Act	N/A
IARC	N/A
OSHA	N/A
ACGIH	N/A
NTP	N/A
EU CLP	N/A
Germ Cell Mutagenicity	N/A
Reproductive Toxicity	N/A
Specific Target Organ Toxicity (Single Exposure)	N/A
Specific Target Organ Toxicity (Repeated Exposure)	N/A
Respiration Hazard	N/A
Notification of Ministry of Employment and Labor	
Carcinogens	N/A
Germ Cell Mutagenicity	N/A
Reproductive Toxicity	N/A

12. Ecological Information

A. Ecological toxicity of aquatic and/or terrestrial organisms

Fish	[Benzyl alcohol] : LC50 = 10 mg/ℓ 96 hr [1,3-Cyclohexanedimethanamine] : LC50 = 90.772 mg/ℓ 96 hr
Shell	[1,3-Cyclohexanedimethanamine] : LC50 = 7.553 mg/ℓ 48 hr
Bird	[1,3-Cyclohexanedimethanamine] : EC50 = 2.395 mg/ℓ 96 hr

B. Persistence and Degradability

Persistence	[Benzyl alcohol] : log Kow = 1.1 [1,3-Cyclohexanedimethanamine] : log Kow = 1.07
Degradability	N/A

C. Bioaccumulation

Bioaccumulation	[1,3-Cyclohexanedimethanamine] : BCF = 10
Biodegradability	[Benzyl alcohol] : 94 (%) 28 day

D. Mobility in Soil

[1,3-Cyclohexanedimethanamine] : Koc 29.74

E. Other Adverse Effects

N/A

13. Disposal Considerations

- A. Disposal Method
2 kinds of specified/designated wastes are mixed in the concerned matter. If it is hard to separate them to each, it's advised to incinerate or dispose of them in a similar method as incineration to lose weight and stabilize them. In case it is possible to separate water from oil, apply the method as pre-treatment and then incinerate.
In case that a situation is not allowed for incineration, smash or cut them in 15 centimeters at maximum diameter and melt them. And landfill them in reclamation facility under control.
- B. Disposal Considerations
A business that discharges industrial waste shall dispose of their wastes for himself, or commission waste disposal company, he/she who recycles and processes other's wastes, or he/she who is equipped with waste disposal facility to handle the wastes. Comply with Wastes Control Act.

14. Transport Information

- A. UN NO. 2735
- B. Proper shipping name Amines, liquid, corrosive, n.o.s, or Polyamines, liquid, corrosive, n.o.s.(1,3-Cyclohexanedimethanamine)
- C. Transport hazard class IIX
- D. Container class II
- E. Marine pollutant N/A
- F. Special precautions for user regarding transportation and means of transportation or special safety measures to be taken
- : In compliance with Safety Control of Dangerous Substances Act for local transportation.
 - : Packing and transporting in accordance with DOT and other regulations.
- Emergency measure in fire F - A
- Emergency measure in spill S - B

15. Other Regulatory Information

- A. Industrial Safety and Health Act N/A
- B. Toxic Chemicals Control Act N/A
- C. Safety Control of Dangerous Substances Act The 3rd Kerosene type under the 4th category (insoluble liquid) (designated water amount: 2,000liters)
- D. Wastes Control Act Specified/designated waste (waste synthetic high molecular compound)
- E. Other Regulations (Domestic & International)
- Domestic Regulations
- Persistent Organic Pollutants Control Act N/A
- International Regulations
- OSHA N/A
 - CERCLA N/A
 - EPCRA 302 N/A
 - EPCRA 304 N/A
 - EPCRA 313 N/A
 - Rotterdam Convention on the Prior Informed Consent Procedure for Certain

Hazardous Chemicals and Pesticides in International Trade N/A
 Stockholm Convention on Persistent Organic Pollutants N/A
 Montreal Protocol on Substances that Deplete the Ozone Layer N/A
 EU Classification Info.

Finalized Class [Benzyl alcohol] : Xi; R20/22
 Danger statement [Benzyl alcohol] : R20/22
 Precaution statement [Benzyl alcohol] : S2, S26

F. NFPA Hazard Classes

Health: 2 Fire: 1 Reactivity: 0

Cas No.	2579-20-6	100-51-6	Secret
Korea (KECL)	KE-09173	KE-02570	Listed
USA (TSCA)	Listed	Listed	Listed
EU	219-941-5	202-859-9	Polymer
Japan (MITI/ENCS)	3-2279	3-1011	Not Listed
China (IECSC)	Listed	Listed	Listed
Canada(DSL/NDSL)	DSL	DSL	NDSL
Australia (AICS)	Listed	Listed	Not Listed

16. Other Information

A. References: Standard regarding writing and keep/arrange Material Safety Data Sheet (MSDS)
 Hands-On Practice of MSDS for Chemical Mixtures
 MSDS of raw materials obtained from raw material suppliers

B. Other Special Considerations: The concerned information has been prepared by using currently available DB in an attempt to protect the employees' health, environment, and safety.