

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

1 Identification

- **Product identifier**
- **Trade name:** Slow Set Bonding Agent - Part A
- **Article number:** 87-140440A
- **Application of the substance / the mixture**
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Unitex®
3101 Gardner
Kansas city, MO 64120

Tel: (800) 821-5846
Fax: (816) 483-3149

Emergency Telephone Number: Use only in the event of an emergency involving a spill, leak, fire, exposure, or accident involving chemicals. Within the U.S., Canada, or the U.S. Virgin Islands, call ChemTrec at (800) 424-9300, 24 hours a day. Or, outside these areas, call (703) 527-3887. Collect calls are accepted.

- **Information department:** Environmental, Health, and Safety department.

2 Hazard(s) identification

- **Classification of the substance or mixture**
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2B H320 Causes eye irritation.
Aquatic Acute 3 H402 Harmful to aquatic life.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard statements**
Causes skin and eye irritation.
Harmful to aquatic life.
Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
Wear protective gloves.
Avoid release to the environment.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see on this label).
If skin irritation occurs: Get medical advice/attention.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 1
Fire = 1
Reactivity = 0

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: **Slow Set Bonding Agent - Part A**

(Contd. of page 1)

· HMIS-ratings (scale 0 - 4)

| | | |
|-----------------|---|----------------|
| HEALTH | 1 | Health = 1 |
| FIRE | 1 | Fire = 1 |
| PHYSICAL HAZARD | 0 | Reactivity = 0 |

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

| | | |
|------------|---|---------|
| 25085-99-8 | Diglycidyl ether of bisphenol A homopolymer | 75-100% |
| 64742-94-5 | Solvent naphtha (petroleum), heavy arom. | ≤ 5% |
| 84852-15-3 | 4-nonylphenol, branched | ≤ 1% |
| 13463-67-7 | titanium dioxide | ≤ 1% |

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
In the event of persistent symptoms receive medical treatment.
- **After inhalation:**
In case of unconsciousness place patient stably in side position for transportation.
Immediately move exposed person to fresh air. If breathing difficulty persists or develops get prompt medical attention.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Seek medical treatment.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: Slow Set Bonding Agent - Part A

(Contd. of page 2)

- **Advice for firefighters**

- **Protective equipment:**

Because fire may produce thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

Wear appropriate personal protective clothing to prevent eye and skin contact. Avoid breathing vapors or mists of this product. Use with adequate ventilation. Do not take internally.

- **Information about protection against explosions and fires:** *No special measures required.*

- **Conditions for safe storage, including any incompatibilities**

- **Storage:** *cool and dry*

- **Requirements to be met by storerooms and receptacles:** *No special requirements.*

- **Information about storage in one common storage facility:** *Store away from foodstuffs.*

- **Further information about storage conditions:** *Keep receptacle tightly sealed.*

- **Specific end use(s)** *No further relevant information available.*

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** *No further data; see item 7.*

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **Additional information:** *The lists that were valid during the creation were used as basis.*

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: **Slow Set Bonding Agent - Part A**

(Contd. of page 3)

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Eye protection:** *Wear appropriate eye protection to prevent eye contact.*

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Color: Grey

· **Odor:** Mild

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

· **Flash point:** >94 °C (>201 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:**

Decomposition temperature: Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

· **Vapor pressure:** Not determined.

· **Density at 20 °C (68 °F):** 1.14 g/cm³ (9.513 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: Slow Set Bonding Agent - Part A

(Contd. of page 4)

- **Solvent content:**
- **Organic solvents:** 0.0 %
- **Other information** No further relevant information available.
- **Volatile Organic Compounds:** Not determined

10 Stability and reactivity

- **Reactivity** No decomposition if stored and applied as directed.
- **Chemical stability** No decomposition if stored and applied as directed
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Keep away from heat and sources of ignition.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

25085-99-8 Diglycidyl ether of bisphenol A homopolymer

| | | |
|--------|------|----------------------|
| Oral | LD50 | 5000 mg/kg (rat) |
| Dermal | LD50 | 20000 mg/kg (rabbit) |

- **Primary irritant effect:**
- **on the skin:** May cause skin irritation.
- **on the eye:**
Strong irritant with the danger of severe eye injury.
Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

| | | |
|------------|--------------------------------------|----|
| 13463-67-7 | titanium dioxide | 2B |
| 7631-86-9 | silicon dioxide, chemically prepared | 3 |

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: **Slow Set Bonding Agent - Part A**

(Contd. of page 5)

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
 Water hazard class 1 (Self-assessment): slightly hazardous for water
 Water hazard class 2 (Self-assessment): hazardous for water
 Do not allow product to reach ground water, water course or sewage system.
 Danger to drinking water if even small quantities leak into the ground.
 Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
 Must not be disposed of as normal garbage. Do not allow product to reach sewage system.
 It is the generator's responsibility to determine if the waste meets applicable definitions of hazardous waste. State and local regulations may differ from federal disposal regulations. Dispose of waste material according to local, state, federal, and provincial environmental regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to Federal, State, and Local regulations.

14 Transport information

- | | |
|---|--|
| <ul style="list-style-type: none"> · UN-Number · DOT, ADR, ADN, IATA · IMDG | <p>Not Regulated UN3082</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT, ADR, ADN, IATA · IMDG | <p>Not Regulated ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin), MARINE POLLUTANT</p> |

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

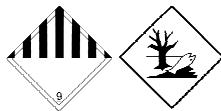
Reviewed on 03/17/2016

Trade name: *Slow Set Bonding Agent - Part A*

(Contd. of page 6)

· **Transport hazard class(es)**· **DOT, ADR, ADN, IATA**· **Class**

Not Regulated

· **IMDG**· **Class**

9 Miscellaneous dangerous substances and articles

· **Label**

9

· **Packing group**· **DOT, ADR, IATA**

Not Regulated

· **IMDG**

III

· **Environmental hazards:**· **Marine pollutant:**

No

Symbol (fish and tree)

· **Special precautions for user**· **EMS Number:**

F-A,S-F

· **Stowage Category**

A

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**· **DOT**· **Remarks:**

Add "Marine Pollutant" to end of proper shipping name if shipping in a bulk container (>119 gallons).

· **ADR**· **U.S. Domestic Ground Shipments:**

Same as listed for Standard Shipments above.

· **U.S. Domestic Ground Non-Bulk (119 gal or less per container) Shipments:**

Same as listed for Standard Shipments above.

· **Emergency Response Guide (ERG) Number:**

Not determine

· **UN "Model Regulation":**

Not Regulated

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**· **Sara**· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

This product may contain 1 or more toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR part 372. If so, the chemicals are listed below.

84852-15-3 | 4-nonylphenol, branched

≤1%

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: Slow Set Bonding Agent - Part A

(Contd. of page 7)

· **Proposition 65**· **Chemicals known to the State of California (Prop. 65) to cause cancer:**

13463-67-7 titanium dioxide

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenicity categories**· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

13463-67-7 titanium dioxide

A4

· **MAK (German Maximum Workplace Concentration)**

13463-67-7 titanium dioxide

3A

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

13463-67-7 titanium dioxide

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).· **Hazard pictograms**

GHS07

· **Signal word** Warning· **Hazard statements**

Causes skin and eye irritation.

Harmful to aquatic life.

Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

Wear protective gloves.

Avoid release to the environment.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see on this label).

If skin irritation occurs: Get medical advice/attention.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**· **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Environmental, Health & Safety Department

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: Slow Set Bonding Agent - Part A

(Contd. of page 8)

· **Contact:** Environmental, Health & Safety Manager

· **Date of preparation / last revision** 03/17/2016 / 48

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B

Aquatic Acute 3: Hazardous to the aquatic environment - Acute Hazard, Category 3

Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

1 Identification

- **Product identifier**
- **Trade name:** Slow Set Bonding Agent - Part B
- **Article number:** 87-140440B
- **Application of the substance / the mixture**
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Unitex®
3101 Gardner
Kansas city, MO 64120

Tel: (800) 821-5846
Fax: (816) 483-3149

Emergency Telephone Number: Use only in the event of an emergency involving a spill, leak, fire, exposure, or accident involving chemicals. Within the U.S., Canada, or the U.S. Virgin Islands, call ChemTrec at (800) 424-9300, 24 hours a day. Or, outside these areas, call (703) 527-3887. Collect calls are accepted.

- **Information department:** Environmental, Health, and Safety department.

2 Hazard(s) identification

- **Classification of the substance or mixture**
Skin Corr. 1C H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
Skin Sens. 1 H317 May cause an allergic skin reaction.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05 GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**
3,6,9-triazaundecamethylenediamine
3,6-diazaoctanethylenediamin
2-(2-aminoethylamino)ethanol
2-piperazin-1-ylethylamine
- **Hazard statements**
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
Do not breathe dusts or mists.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: Slow Set Bonding Agent - Part B

(Contd. of page 1)

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

| | | |
|-----------------|---|----------------|
| HEALTH | 3 | Health = 3 |
| FIRE | 1 | Fire = 1 |
| PHYSICAL HAZARD | 2 | Reactivity = 2 |

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
111-40-0 2,2'-iminodiethylamine
- **Identification number(s)**
- **EC number:** 203-865-4
- **Index number:** 612-058-00-X
- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

| | | |
|----------|------------------------------------|-------|
| 112-57-2 | 3,6,9-triazaundecamethylenediamine | ≤ 10% |
| 112-24-3 | 3,6-diazaoctanethylenediamin | ≤ 10% |
| 111-41-1 | 2-(2-aminoethylamino)ethanol | ≤ 1% |
| 140-31-8 | 2-piperazin-1-ylethylamine | ≤ 1% |

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
In the event of persistent symptoms receive medical treatment.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
Immediately move exposed person to fresh air. If breathing difficulty persists or develops get prompt medical attention.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Immediately rinse with water.
If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: Slow Set Bonding Agent - Part B

(Contd. of page 2)

- **After swallowing:**
Immediately call a doctor.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
Seek medical treatment.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:**
Because fire may produce thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Wear appropriate personal protective clothing to prevent eye and skin contact. Avoid breathing vapors or mists of this product. Use with adequate ventilation. Do not take internally.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

US

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: Slow Set Bonding Agent - Part B

(Contd. of page 3)

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

| | |
|--|--|
| 112-57-2 3,6,9-triazaundecamethylenediamine | |
| WEEL | Long-term value: 5 mg/m ³ Skin; DSEN |
| 112-24-3 3,6-diazaoctanethylenediamin | |
| WEEL | Long-term value: 6 mg/m ³ , 1 ppm Skin |

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- **Eye protection:** Wear appropriate eye protection to prevent eye contact.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

| | |
|---------------|--------|
| Form: | Liquid |
| Color: | Amber |
- **Odor:** Distinctive
- **Odor threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**

| | |
|-------------------------------------|-----------------|
| Melting point/Melting range: | -39 °C (-38 °F) |
| Boiling point/Boiling range: | Undetermined. |
- **Flash point:** 94 °C (201 °F)

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: *Slow Set Bonding Agent - Part B*

(Contd. of page 4)

| | |
|---|--|
| · Flammability (solid, gaseous): | <i>Not applicable.</i> |
| · Ignition temperature: | <i>335 °C (635 °F)</i> |
| · Decomposition temperature: | <i>Not determined.</i> |
| · Auto igniting: | <i>Product is not selfigniting.</i> |
| · Danger of explosion: | <i>Product does not present an explosion hazard.</i> |
| · Explosion limits: | |
| Lower: | <i>1 Vol %</i> |
| Upper: | <i>10 Vol %</i> |
| · Vapor pressure at 20 °C (68 °F): | <i>0.49 hPa</i> |
| · Density at 20 °C (68 °F): | <i>0.9586 g/cm³ (8 lbs/gal)</i> |
| · Relative density | <i>Not determined.</i> |
| · Vapor density | <i>Not determined.</i> |
| · Evaporation rate | <i>Not determined.</i> |
| · Solubility in / Miscibility with Water: | <i>Not miscible or difficult to mix.</i> |
| · Partition coefficient (n-octanol/water): | <i>Not determined.</i> |
| · Viscosity: | |
| Dynamic: | <i>Not determined.</i> |
| Kinematic: | <i>Not determined.</i> |
| · Solvent content: | |
| Organic solvents: | <i>0.0 %</i> |
| Solids content: | <i>100.0 %</i> |
| · Other information | <i>No further relevant information available.</i> |
| · Volatile Organic Compounds: | <i>Not determined</i> |

10 Stability and reactivity

- **Reactivity** *No decomposition if stored and applied as directed.*
- **Chemical stability** *No decomposition if stored and applied as directed*
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Possibility of hazardous reactions** *No dangerous reactions known.*
- **Conditions to avoid** *Keep away from heat and sources of ignition.*
- **Incompatible materials:** *No further relevant information available.*
- **Hazardous decomposition products:** *No dangerous decomposition products known.*

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

112-57-2 3,6,9-triazaundecamethylenediamine

| | | |
|---------------|-------------|---------------------------|
| <i>Dermal</i> | <i>LD50</i> | <i>660 mg/kg (rabbit)</i> |
|---------------|-------------|---------------------------|

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: Slow Set Bonding Agent - Part B

(Contd. of page 5)

112-24-3 3,6-diazaoctanethylenediamin

Oral LD50 2500 mg/kg (rat)

Dermal LD50 805 mg/kg (rabbit)

· **Primary irritant effect:**· **on the skin:** May cause skin irritation.· **on the eye:** Strong caustic effect.· **Sensitization:** Sensitization possible through skin contact.· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories**· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information· **Toxicity**· **Aquatic toxicity:** No further relevant information available.· **Persistence and degradability** No further relevant information available.· **Behavior in environmental systems:**· **Bioaccumulative potential** No further relevant information available.· **Mobility in soil** No further relevant information available.· **Ecotoxicological effects:**· **Remark:** Harmful to fish· **Additional ecological information:**· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms

· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **Other adverse effects** No further relevant information available.

US

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: **Slow Set Bonding Agent - Part B**

(Contd. of page 6)

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of as normal garbage. Do not allow product to reach sewage system.

It is the generator's responsibility to determine if the waste meets applicable definitions of hazardous waste. State and local regulations may differ from federal disposal regulations. Dispose of waste material according to local, state, federal, and provincial environmental regulations.

- **Uncleaned packagings:**

- **Recommendation:** *Disposal must be made according to Federal, State, and Local regulations.*

14 Transport information

- **UN-Number**

- **DOT, ADR, IMDG, IATA**

UN2735

- **UN proper shipping name**

- **DOT, IATA**

- **ADR**

- **IMDG**

Amines, liquid, corrosive, n.o.s. (Tetraethylenepentamine)

2735 Amines, liquid, corrosive, n.o.s. (Tetraethylenepentamine)

AMINES, LIQUID, CORROSIVE, N.O.S.

(TETRAETHYLENEPENTAMINE), MARINE POLLUTANT

- **Transport hazard class(es)**

- **DOT**



- **Class**

8 Corrosive substances

- **Label**

8

- **ADR, IATA**



- **Class**

8 Corrosive substances

- **Label**

8

- **IMDG**



- **Class**

8 Corrosive substances

- **Label**

8

- **Packing group**

- **DOT, ADR, IMDG, IATA**

III

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: Slow Set Bonding Agent - Part B

(Contd. of page 7)

| | |
|---|--|
| · Environmental hazards: | |
| · Marine pollutant: | Yes Symbol (fish and tree) |
| · Special precautions for user | Warning: Corrosive substances |
| · Danger code (Kemler): | 80 |
| · EMS Number: | F-A,S-B |
| · Segregation groups | Alkalis |
| · Stowage Category | A |
| · Segregation Code | SG35 Stow "separated from" acids. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · DOT | |
| · Remarks: | Add "Marine Pollutant" to end of proper shipping name if shipping in a bulk container (>119 gallons). |
| · ADR | |
| · Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml Same as listed for Standard Shipments above. |
| · U.S. Domestic Ground Shipments: | |
| · U.S. Domestic Ground Non-Bulk (119 gal or less per container) Shipments: | Same as listed for Standard Shipments above. |
| · Emergency Response Guide (ERG) Number: | Not determine |
| · IMDG | |
| · Limited quantities (LQ) | 1L |
| · Excepted quantities (EQ) | Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml |
| · UN "Model Regulation": | UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S., 8, III |

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

This product may contain 1 or more toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR part 372. If so, the chemicals are listed below.

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to the State of California (Prop. 65) to cause cancer:**

None of the ingredients is listed.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: Slow Set Bonding Agent - Part B

(Contd. of page 8)

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **MAK (German Maximum Workplace Concentration)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

3,6,9-triazaundecamethylenediamine

3,6-diazaoctanethylenediamin

2-(2-aminoethylamino)ethanol

2-piperazin-1-ylethylamine

· **Hazard statements**

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

Do not breathe dusts or mists.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/doctor.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

· **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

US

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/17/2016

Reviewed on 03/17/2016

Trade name: Slow Set Bonding Agent - Part B

(Contd. of page 9)

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Environmental, Health & Safety Department
- **Contact:** Environmental, Health & Safety Manager
- **Date of preparation / last revision** 03/17/2016 / 42
- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Corr. 1C: Skin corrosion/irritation, Hazard Category 1C

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3