

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and  
OSHA GHS

Printing date 05.05.2015

Revision: 05.05.2015

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** SDP- $\alpha$  STL Solution B
- **Article number:** No other identifiers
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Industrial uses.
- **1.3 Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
Mitsubishi Imaging (MPM), Inc.  
555 Theodore Fremd Avenue  
Rye, NY 10580 USA  
Phone: (914)925-3200
- **1.4 Emergency telephone number:**  
CHEMTREC  
1-800-424-9300 (US/Canada) +01 703-527-3887 (International)



## SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
Classifications listed also are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200).  
The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H400, H410.



health hazard

- |               |      |   |
|---------------|------|---|
| Resp. Sens. 1 | H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled.                          |
| STOT RE 2     | H373 | May cause damage to the kidneys through prolonged or repeated exposure.<br>Route of exposure: Oral. |



corrosion

- |            |      |                            |
|------------|------|----------------------------|
| Eye Dam. 1 | H318 | Causes serious eye damage. |
|------------|------|----------------------------|



environment

- |                   |      |   |
|-------------------|------|---|
| Aquatic Acute 1   | H400 | Very toxic to aquatic life.                           |
| Aquatic Chronic 1 | H410 | Very toxic to aquatic life with long lasting effects. |



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Skin Irrit. 2      H315 Causes skin irritation.  
STOT SE 3      H335 May cause respiratory irritation.


• **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

 Xi; Irritant

R37/38-41: Irritating to respiratory system and skin. Risk of serious damage to eyes.

 Xn; Sensitising

R42: May cause sensitisation by inhalation.

 N; Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

• **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

• **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

• **Additional information:**

There are no other hazards not otherwise classified that have been identified.

0 percent of the mixture consists of component(s) of unknown toxicity

• **2.2 Label elements**

• **Labelling according to Regulation (EC) No 1272/2008**

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H400, H410.

The product is additionally classified and labelled according to the Globally Harmonized System within the United States (GHS).

The product is classified and labelled according to the CLP regulation.

• **Hazard pictograms**

The following pictograms are only for use within Europe: GHS09.



GHS05 GHS07 GHS08 GHS09

• **Signal word** Danger

• **Hazard-determining components of labelling:**

Subtilisin

• **Hazard statements**

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H400, H410.

H315 Causes skin irritation.

H318 Causes serious eye damage.

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H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.

H410 Very toxic to aquatic life with long lasting effects.

• **Precautionary statements**

P261 Avoid breathing mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

P302+P352 IF ON SKIN: Wash with plenty of water.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

• **Hazard description:**

• **WHMIS-symbols:**

D2A - Very toxic material causing other toxic effects



• **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

• **HMIS-ratings (scale 0 - 4)**



Health = \*2

Fire = 0

Reactivity = 0

\* - Indicates a long term health hazard from repeated or prolonged exposures.

• **HMIS Long Term Health Hazard Substances**

None of the ingredients are listed.

• **2.3 Other hazards**

• **Results of PBT and vPvB assessment**

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

• **3.2 Mixtures**

• **Description:** Mixture of substances listed below with nonhazardous additions.

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**· Dangerous components:**

CAS: 9014-01-1 EINECS: 232-752-2 Index number: 647-012-00-8	Subtilisin  Xi R37/38-41;  Xn R42;  N R50/53  Resp. Sens. 1, H334  Eye Dam. 1, H318  Aquatic Acute 1, H400; Aquatic Chronic 1, H410  Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335	25-50%
CAS: 111-46-6 EINECS: 203-872-2 Index number: 603-140-00-6	2,2'-oxybisethanol  Xn R22-48  STOT RE 2, H373  Acute Tox. 4, H302	2,5-10%

**· Additional information:**

For the listed ingredients, the identity and exact percentages are being withheld as a trade secret.  
For the wording of the listed risk phrases refer to section 16.

## SECTION 4: First aid measures

**· 4.1 Description of first aid measures****· General information:**

Immediately remove any clothing soiled by the product.  
Take affected persons out into the fresh air.

**· After inhalation:**

Supply fresh air or oxygen; call for doctor.  
Provide oxygen treatment if affected person has difficulty breathing.

**· After skin contact:**

Immediately wash with water and soap and rinse thoroughly.  
If skin irritation or rash occurs: Get medical advice/attention.

**· After eye contact:**

Protect unharmed eye.  
Remove contact lenses if worn, if possible.  
Rinse opened eye for several minutes under running water. Then consult a doctor.

**· After swallowing:**

Rinse out mouth and then drink plenty of water.  
Do not induce vomiting; call for medical help immediately.

**· 4.2 Most important symptoms and effects, both acute and delayed**

Asthma attacks  
Breathing difficulty  
Coughing  
Allergic reactions  
Irritant to skin and mucous membranes.  
Strong irritant with the danger of severe eye injury.  
May cause respiratory irritation.

**· Hazards**

Danger of impaired breathing.  
Danger of pulmonary oedema.  
Causes serious eye damage.

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May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.  
May be harmful if swallowed.

· **4.3 Indication of any immediate medical attention and special treatment needed**

Medical supervision for at least 48 hours.  
In cases of irritation to the lungs, initial treatment with cortical steroid inhalants.  
Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.  
If necessary oxygen respiration treatment.  
Later observation for pneumonia and pulmonary oedema.  
Contains Subtilisin. May produce an allergic reaction.

## SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** None.

· **5.2 Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

· **5.3 Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

· **Additional information** No further relevant information available.

## SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Use respiratory protective device against the effects of fumes/dust/aerosol.

Ensure adequate ventilation

Use personal protective equipment as required.

· **6.2 Environmental precautions:**

Do not allow to enter sewers/ surface or ground water.

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

· **6.3 Methods and material for containment and cleaning up:**

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

Dispose contaminated material as waste according to item 13.

Send for recovery or disposal in suitable receptacles.

· **6.4 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.

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## SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Use only in well ventilated areas.  
Prevent formation of aerosols.  
Avoid splashes or spray in enclosed areas.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Avoid storage near extreme heat, ignition sources or open flame.  
Provide ventilation for receptacles.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

### Ingredients with limit values that require monitoring at the workplace:

#### 9014-01-1 Subtilisin

REL (USA)	Short-term value: 0,00006* mg/m <sup>3</sup> *60-min
TLV (USA)	Ceiling limit: 0,00006 mg/m <sup>3</sup> as 100% crystalline active pure enzyme
EL (Canada)	Ceiling limit: 0,00006 mg/m <sup>3</sup> S
EV (Canada)	Ceiling limit: 0,00006 mg/m <sup>3</sup>

#### 111-46-6 2,2'-oxybisethanol

WEEL (USA)	Long-term value: 10 mg/m <sup>3</sup>
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- **DNELs** No further relevant information available.
- **PNECs** No further relevant information available.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures are to be adhered to when handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Do not inhale gases / fumes / aerosols.  
Avoid contact with the eyes and skin.

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- **Respiratory protection:**  
Use suitable respiratory protective device when aerosol or mist is formed.  
Use suitable respiratory protective device when high concentrations are present.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**  
Contact lenses should not be worn.



Safety glasses

- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment** Avoid release to the environment.
- **Risk management measures** See Section 7 for additional information.

## SECTION 9: Physical and chemical properties

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

Form:	Fluid
Colour:	Opaque
- **Odour:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**

Melting point/Melting range:	Not Determined.
Boiling point/Boiling range:	Undetermined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not applicable.

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- **Auto/Self-ignition temperature:** Not determined.
- **Decomposition temperature:** Not determined.
- **Self-igniting:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - Lower:** Not determined.
  - Upper:** Not determined.
- **Vapour pressure:** Not determined.
- **Density at 20 °C (68 °F):** 1,03 g/cm<sup>3</sup> (8,595 lbs/gal)
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with water:** Fully miscible.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **9.2 Other information** No further relevant information available.

## SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions** Reacts with strong oxidising agents.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

## SECTION 11: Toxicological information

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

<b>LD/LC50 values relevant for classification:</b>
--

<b>9014-01-1 Subtilisin</b>
-----------------------------

Oral   LD50   1800 mg/kg (rat)
--------------------------------

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.

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- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitisation:**  
May cause sensitisation by inhalation and skin contact.  
Contains Subtilisin. May produce an allergic reaction.
- **Subacute to chronic toxicity:** No further relevant information available.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Harmful  
Irritant  
Contains Subtilisin. May produce an allergic reaction.  
Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.  
Toxic and/or corrosive effects may be delayed up to 24 hours.
- **Acute effects (acute toxicity, irritation and corrosivity):**  
Irritating to respiratory system.  
Irritating to skin.  
May be harmful if swallowed.
- **Repeated dose toxicity:**  
May cause sensitisation by inhalation and skin contact.  
May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.  
Repeated exposures may result in skin and/or respiratory sensitivity.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):** None.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** Toxic for aquatic organisms
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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## SECTION 13: Disposal considerations

### · 13.1 Waste treatment methods

#### · Recommendation

Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

#### · Uncleaned packaging:

· Recommendation: Disposal must be made according to official regulations.

## SECTION 14: Transport information

### · 14.1 UN-Number

#### · DOT, IATA

Not Regulated

#### · ADR, IMDG

UN3082

### · 14.2 UN proper shipping name

#### · DOT, IATA

Not Regulated

#### · ADR

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SUBTILISINS)

#### · IMDG

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SUBTILISINS), MARINE POLLUTANT

### · 14.3 Transport hazard class(es)

#### · DOT, IATA

#### · Class

Not Regulated

#### · Label

-

#### · ADR



#### · Class

9 (M6) Miscellaneous dangerous substances and articles.

#### · Label

9

#### · IMDG



#### · Class

9 Miscellaneous dangerous substances and articles.

#### · Label

9

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- **14.4 Packing group**
  - **DOT, IATA** Not Regulated
  - **ADR, IMDG** III
  - **14.5 Environmental hazards:** Product contains environmentally hazardous substances: Subtilisin
  - **Marine pollutant:** Yes
  - **Special marking (ADR):** Symbol (fish and tree)
  - **14.6 Special precautions for user** Symbol (fish and tree)  
Warning: Miscellaneous dangerous substances and articles.
  - **Danger code (Kemler):** 90
  - **EMS Number:** F-A,S-F
  - **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
  - **Transport/Additional information:**
- 
- **ADR**
  - **Limited quantities (LQ)** 5L
  - **Excepted quantities (EQ)** Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml
  - **Transport category** 3
  - **Tunnel restriction code** E
- 
- **IMDG**
  - **Limited quantities (LQ)** 5L
  - **Excepted quantities (EQ)** Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml
  - **UN "Model Regulation":** UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SUBTILISIN), 9, III

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

All ingredients are listed.

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- **Proposition 65 (California):**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

- **Carcinogenic Categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

- **Canada**

- **Canadian Domestic Substances List (DSL)**

All ingredients are listed.

- **Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients are listed.

- **Canadian Ingredient Disclosure list (limit 1%)**

None of the ingredients are listed.

- **Other regulations, limitations and prohibitive regulations**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

- **Substances of very high concern (SVHC) according to REACH, Article 57**

None of the ingredients are listed.

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

### SECTION 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.

- **Relevant phrases**

H302 Harmful if swallowed.

H315 Causes skin irritation.

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- H318 Causes serious eye damage.  
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H335 May cause respiratory irritation.  
 H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.  
 H400 Very toxic to aquatic life.  
 H410 Very toxic to aquatic life with long lasting effects.
- R22 Harmful if swallowed.  
 R37/38 Irritating to respiratory system and skin.  
 R41 Risk of serious damage to eyes.  
 R42 May cause sensitisation by inhalation.  
 R48 Danger of serious damage to health by prolonged exposure.  
 R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

• **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  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 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)  
 HMIS: Hazardous Materials Identification System (USA)  
 WHMIS: Workplace Hazardous Materials Information System (Canada)  
 VOC: Volatile Organic Compounds (USA, EU)  
 DNEL: Derived No-Effect Level (REACH)  
 PNEC: Predicted No-Effect Concentration (REACH)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 Acute Tox. 4: Acute toxicity, Hazard Category 4  
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2  
 Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1  
 Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1  
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3  
 STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2  
 Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1  
 Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

• **Sources**

SDS Prepared by:

ChemTel Inc.

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