

**SECTION 1: Product and company identification**

Product name : Liquidase™ 250 - All-Purpose Digestant  
 Use of the substance/mixture : Bacterial digestant  
 Product code : 0534  
 Company : Total Solutions  
 P.O. Box 240014  
 Milwaukee, WI 53224 - USA  
 T (414) 354-6417  
 Emergency number : Chemtec: (800) 424-9300

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Classification (GHS-US)**

Eye Irrit. 2A H319  
 Resp. Sens. 1 H334  
 Full text of H-phrases: see section 16

**2.2. Label elements**

**GHS-US labeling**

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) : Danger  
 Hazard statements (GHS-US) : Causes serious eye irritation  
 May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 Precautionary statements (GHS-US) : Avoid breathing mist, spray  
 Wash thoroughly after handling  
 Wear eye protection  
 In case of inadequate ventilation wear respiratory protection  
 If inhaled: Remove person to fresh air and keep comfortable for breathing  
 If in eyes: 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  
 Dispose of contents/container to comply with local/regional/national/international regulations.

**2.3. Other hazards**

No additional information available

**2.4. Unknown acute toxicity (GHS US)**

Not applicable

**SECTION 3: Composition/information on ingredients**

**3.1. Substance**

Not applicable

Full text of H-phrases: see section 16

**3.2. Mixture**

| Name       | Product identifier  | %          | Classification (GHS-US)   |
|------------|---------------------|------------|---|
| UNDECETH-5 | (CAS No) 34398-01-1 | 1.0 - 5.0  | Acute Tox. 4 (Oral), H302<br>Eye Dam. 1, H318                                     |
| subtilisin | (CAS No) 9014-01-1  | 0.05 - 0.5 | Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Resp. Sens. 1, H334<br>STOT SE 3, H335 |

Trade Secret Information: Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

First-aid measures general : If you feel unwell, seek medical advice (show the label where possible).  
 First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.  
 First-aid measures after skin contact : Wash skin with plenty of water.

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**TOTAL**  
SOLUTIONS™

- 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 with water. Do NOT induce vomiting.

### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.
- Symptoms/injuries after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Symptoms/injuries after skin contact : Contact during a long period may cause light irritation.
- Symptoms/injuries after eye contact : Causes serious eye irritation.
- Symptoms/injuries after ingestion : Gastrointestinal complaints.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : All extinguishing media allowed.

### 5.2. Special hazards arising from the substance or mixture

- Reactivity : Thermal decomposition may produce : carbon oxides (CO and CO<sub>2</sub>).

### 5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers. Take account of environmentally hazardous firefighting water.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Isolate from fire, if possible, without unnecessary risk.

#### 6.1.1. For non-emergency personnel

- Protective equipment : Protective goggles. Gloves. Protective clothing.
- Emergency procedures : Evacuate unnecessary personnel. Avoid contact with skin, eyes and clothing. Ventilate spillage area.

#### 6.1.2. For emergency responders

- Protective equipment : Use personal protective equipment as required.
- Emergency procedures : Stop leak if safe to do so. Stop release. Ventilate area.

### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

### 6.3. Methods and material for containment and cleaning up

- For containment : Contain released substance, pump into suitable containers.
- Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Keep container tightly closed.
- Hygiene measures : Wash thoroughly after handling. Wash contaminated clothing before reuse.

### 7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Comply with applicable regulations.
- Storage conditions : Keep container closed when not in use.
- Storage area : Meet the legal requirements. Store in a cool area.
- Special rules on packaging : meet the legal requirements.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| subtilisin (9014-01-1) |                                    |                           |
|------------------------|------------------------------------|---------------------------|
| ACGIH                  | ACGIH Ceiling (mg/m <sup>3</sup> ) | 0.00006 mg/m <sup>3</sup> |

### 8.2. Exposure controls

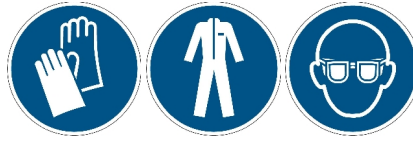
- Appropriate engineering controls : Ensure good ventilation of the work station.

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Personal protective equipment

: Use appropriate personal protective equipment when risk assessment indicates this is necessary.  
Gloves. Protective clothing. Safety glasses.



### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

|   |                              |
|---|------------------------------|
| Physical state                              | : Liquid                     |
| Appearance                                  | : Hazy, orange-brown liquid. |
| Odor  | : Bland odor                 |
| Odor threshold                              | : No data available          |
| pH  | : 7 - 8                      |
| Melting point                               | : No data available          |
| Freezing point                              | : No data available          |
| Boiling point                               | : No data available          |
| Flash point                                 | : No data available          |
| Relative evaporation rate (butyl acetate=1) | : No data available          |
| Flammability (solid, gas)                   | : No data available          |
| Explosion limits                            | : No data available          |
| Explosive properties                        | : No data available          |
| Oxidizing properties                        | : No data available          |
| Vapor pressure                              | : No data available          |
| Relative density                            | : No data available          |
| Relative vapor density at 20 °C             | : No data available          |
| Specific gravity / density                  | : 1.01 g/ml                  |
| Solubility                                  | : Soluble in water.          |
| Log Pow                                     | : No data available          |
| Log Kow                                     | : No data available          |
| Auto-ignition temperature                   | : No data available          |
| Decomposition temperature                   | : No data available          |
| Viscosity                                   | : No data available          |
| Viscosity, kinematic                        | : No data available          |
| Viscosity, dynamic                          | : No data available          |
| VOC content                                 | : < 0.5 %                    |

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Thermal decomposition may produce : carbon oxides (CO and CO<sub>2</sub>).

#### 10.2. Chemical stability

No additional information available

#### 10.3. Possibility of hazardous reactions

No additional information available

#### 10.4. Conditions to avoid

No additional information available

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

#### UNDECETH-5 (34398-01-1)

|               |              |
|---------------|--------------|
| LD50 oral rat | > 1400 mg/kg |
|---------------|--------------|

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|  |  |
|--|--|
| Skin corrosion/irritation                          | : Not classified<br>pH: 7 - 8  |
| Serious eye damage/irritation                      | : Causes serious eye irritation.<br>pH: 7 - 8                                |
| Respiratory or skin sensitization                  | : May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Germ cell mutagenicity                             | : Not classified   |
| Carcinogenicity                                    | : Not classified   |
| Reproductive toxicity                              | : Not classified   |
| Specific target organ toxicity (single exposure)   | : Not classified   |
| Specific target organ toxicity (repeated exposure) | : Not classified   |
| Aspiration hazard                                  | : Not classified   |
| Symptoms/injuries after inhalation                 | : May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Symptoms/injuries after skin contact               | : Contact during a long period may cause light irritation.                   |
| Symptoms/injuries after eye contact                | : Causes serious eye irritation.   |
| Symptoms/injuries after ingestion                  | : Gastrointestinal complaints.   |

### SECTION 12: Ecological information

#### 12.1. Toxicity

|                         |           |
|-------------------------|-----------|
| UNDECETH-5 (34398-01-1) |           |
| LC50 fish 1             | < 10 mg/l |
| EC50 Daphnia 1          | < 10 mg/l |
| ErC50 (algae)           | < 10 mg/l |

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT : Not regulated for transport

#### Additional information

Other information : No supplementary information available.

#### ADR

No additional information available

#### Transport by sea

No additional information available

#### Air transport

No additional information available

### SECTION 15: Regulatory information

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

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

|                                     |                                 |
|-------------------------------------|---------------------------------|
| UNDECETH-5 (34398-01-1)             |                                 |
|                                     |                                 |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |

California Proposition 65 - This product does not contain substances known to the state of California to cause cancer and/or reproductive toxicity

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### SECTION 16: Other information

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

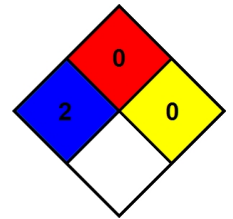
Full text of H-phrases:

|                     |   |
|---------------------|---|
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4  |
| Eye Dam. 1          | Serious eye damage/eye irritation Category 1                              |
| Eye Irrit. 2A       | Serious eye damage/eye irritation Category 2A                             |
| Resp. Sens. 1       | Respiratory sensitisation Category 1                                      |
| Skin Irrit. 2       | Skin corrosion/irritation Category 2                                      |
| STOT SE 3           | Specific target organ toxicity (single exposure) Category 3               |
| H302                | Harmful if swallowed  |
| H315                | Causes skin irritation  |
| H318                | Causes serious eye damage   |
| H319                | Causes serious eye irritation   |
| H334                | May cause allergy or asthma symptoms or breathing difficulties if inhaled |
| H335                | May cause respiratory irritation  |

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



Prepared by: Technical Department

*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. No warranty is expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Our company assumes no responsibility for personal injury or property damage to the vendee, users or third parties caused by the material. Such vendees or users assume all risks associated with the use of this material.*