Safety Data Sheet  
(Cover Sheet)

Chemical product and company identification

Substance name (Product name) : Cytotoxicity LDH Assay Kit-WST  
Product code : CK12  
Company information : Dojindo Laboratories  
Tabaru 2025-5 Mashiki-machi, Kamimashiki-gun, Kumamoto 861-2202, Japan

This product consists of components listed below.  
The Safety Data Sheet is composed of each safety information of the components.

<table>
<thead>
<tr>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lysis Buffer</td>
</tr>
<tr>
<td>Stop Solution</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dye Mixture</td>
</tr>
<tr>
<td>Assay Buffer</td>
</tr>
</tbody>
</table>
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Mixture
Trade name: Dye Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
Recommended uses and restrictions: for research use only

1.3. Details of the supplier of the safety data sheet

Dojindo Laboratories
Tabaru 2025-5 Mashiki-machi, Kamimashiki-gun, Kumamoto 861-2202, Japan

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of REACH Annex II

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact: Wash skin with plenty of water.
First-aid measures after eye contact: Rinse eyes with water as a precaution.
First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell.

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

No additional information available

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

Treat symptomatically.
SECTION 5: Firefighting measures

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture
Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters
Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Ventilate spillage area.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Mechanically recover the product.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store in a refrigerator(0〜5℃). Keep tightly closed. Protect from light.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

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

Hand protection:
Protective gloves

Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Colour</td>
<td>White to slightly yellow solid.</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Pow)</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

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

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Dye Mixture

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

<table>
<thead>
<tr>
<th>Hazardous to the aquatic environment, short-term (acute)</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous to the aquatic environment, long-term (chronic)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Not rapidly degradable</td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods: Dispose of contents/container in accordance with licensed collector’s sorting instructions.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID
SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations
Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany
Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG)
                        : Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)
Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1)
Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands
ABM category : A(4) - low hazard for aquatic organisms, may have long term hazardous effects in aquatic environment
SZW-lijst van kankerverwekkende stoffen : None of the components are listed
SZW-lijst van mutagene stoffen : None of the components are listed
SZW-lijst van repROTOXISCHE stoffen – Borstvoeding : None of the components are listed
SZW-lijst van repROTOXISCHE stoffen – Vruchtbaarheid : None of the components are listed
SZW-lijst van repROTOXISCHE stoffen – Ontwikkeling : None of the components are listed

Switzerland
Storage class (LK) : NG - Non-hazardous

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways</td>
</tr>
<tr>
<td>ADR</td>
<td>European Agreement concerning the International Carriage of Dangerous Goods by Road</td>
</tr>
<tr>
<td>ATE</td>
<td>Acute Toxicity Estimate</td>
</tr>
<tr>
<td>BCF</td>
<td>Bioconcentration factor</td>
</tr>
<tr>
<td>BLV</td>
<td>Biological limit value</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>BOD</td>
<td>Biochemical oxygen demand (BOD)</td>
</tr>
<tr>
<td>COD</td>
<td>Chemical oxygen demand (COD)</td>
</tr>
<tr>
<td>DMEL</td>
<td>Derived Minimal Effect level</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived-No Effect Level</td>
</tr>
<tr>
<td>EC-No.</td>
<td>European Community number</td>
</tr>
<tr>
<td>EC50</td>
<td>Median effective concentration</td>
</tr>
<tr>
<td>EN</td>
<td>European Standard</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods</td>
</tr>
<tr>
<td>LC50</td>
<td>Median lethal concentration</td>
</tr>
<tr>
<td>LD50</td>
<td>Median lethal dose</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>NOAEC</td>
<td>No-Observed Adverse Effect Concentration</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No-Observed Adverse Effect Level</td>
</tr>
<tr>
<td>NOEC</td>
<td>No-Observed Effect Concentration</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>OEL</td>
<td>Occupational Exposure Limit</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent Bioaccumulative Toxic</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted No-Effect Concentration</td>
</tr>
<tr>
<td>RID</td>
<td>Regulations concerning the International Carriage of Dangerous Goods by Rail</td>
</tr>
<tr>
<td>SDS</td>
<td>Safety Data Sheet</td>
</tr>
<tr>
<td>STP</td>
<td>Sewage treatment plant</td>
</tr>
<tr>
<td>ThOD</td>
<td>Theoretical oxygen demand (ThOD)</td>
</tr>
<tr>
<td>TLM</td>
<td>Median Tolerance Limit</td>
</tr>
<tr>
<td>VOC</td>
<td>Volatile Organic Compounds</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>Chemical Abstract Service number</td>
</tr>
<tr>
<td>N.O.S.</td>
<td>Not Otherwise Specified</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and Very Bioaccumulative</td>
</tr>
<tr>
<td>ED</td>
<td>Endocrine disrupting properties</td>
</tr>
</tbody>
</table>

The classification complies with: ATP 12

SDS EU (REACH Annex II)

This product is a chemical substance and is intended to be used by persons having chemical knowledge and skill at their own discretion and risk. This SDS was prepared with our best knowledge based on the information obtained. However, it does not provide any warranty on the data and the assessment of hazards and toxicity information be covered. For use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, region and country where the product be used. In case you use the information on SDS for important decision, we strongly recommend you to confirm the source of information and the data with your own investigation. Please be noted that the physicochemical data and contents indicated in this SDS are not guaranteed values, only a guide. The cautions stated are for normal handling only. Additional care may be required for any special handling. The data and/or information used on this SDS may be updated by new knowledge and/or amendments of the conventional theory. Therefore, please check the most updated version of SDS which is available at www.dojindo.com.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Trade name : Assay Buffer

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
Recommended uses and restrictions : for research use only

1.3. Details of the supplier of the safety data sheet

Dojindo Laboratories
Tabaru 2025-5 Mashiki-machi, Kamimashiki-gun, Kumamoto 861-2202, Japan

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
No labelling applicable

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of REACH Annex II

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

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

No additional information available

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

Treat symptomatically.
SECTION 5: Firefighting measures

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders
Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions : Keep tightly closed. Protect from light. Store in a refrigerator(0〜5℃).

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

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

Hand protection:
Protective gloves

Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Colour: Red liquid.
Odour: odourless.
Odour threshold: No data available
pH: 7.2 – 7.6
Relative evaporation rate (butylacetate=1): No data available
Melting point: Not applicable
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): Not applicable
Vapour pressure: No data available
Relative vapour density at 20 °C: No data available
Relative density: No data available
Solubility: No data available
Partition coefficient n-octanol/water (Log Pow): No data available
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
Explosive properties: No data available
Oxidising properties: No data available
Explosive limits: No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

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 (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Skin corrosion/irritation : Not classified
pH: 7.2 – 7.6

Serious eye damage/irritation : Not classified
pH: 7.2 – 7.6

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information
12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified
Not rapidly degradable

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations
13.1. Waste treatment methods
Waste treatment methods : Dispose of contents/container in accordance with licensed collector’s sorting instructions.

SECTION 14: Transport information
In accordance with ADR / IMDG / IATA / ADN / RID
## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

- Contains no REACH substances with Annex XVII restrictions
- Contains no substance on the REACH candidate list
- Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

**Germany**

- Employment restrictions: Observe restrictions according Act on the Protection of Working Mothers (MuSchG)
- Employment restrictions: Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)
- Water hazard class (WGK): WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1)
- Hazardous Incident Ordinance (12. BImSchV): Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

**Netherlands**

- ABM category: A(4) - low hazard for aquatic organisms, may have longterm hazardous effects in aquatic environment
- SZW-lijst van kankerverwekkende stoffen: None of the components are listed
- SZW-lijst van mutagene stoffen: None of the components are listed
- SZW-lijst van reprotoxische stoffen – Borstvoeding: None of the components are listed
- SZW-lijst van reprotoxische stoffen – Vruchtbaarheid: None of the components are listed
- SZW-lijst van reprotoxische stoffen – Ontwikkeling: None of the components are listed

**Switzerland**

- Storage class (LK): LK 10/12 - Liquids

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Abbreviations and acronyms:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
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<td>ADN</td>
<td>European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways</td>
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<tr>
<td>ADR</td>
<td>European Agreement concerning the International Carriage of Dangerous Goods by Road</td>
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<td>ATE</td>
<td>Acute Toxicity Estimate</td>
</tr>
<tr>
<td>BCF</td>
<td>Bioconcentration factor</td>
</tr>
<tr>
<td>BLV</td>
<td>Biological limit value</td>
</tr>
</tbody>
</table>
BOD | Biochemical oxygen demand (BOD)
--- | ---
COD | Chemical oxygen demand (COD)
DMEL | Derived Minimal Effect level
DNEL | Derived-No Effect Level
EC-No. | European Community number
EC50 | Median effective concentration
EN | European Standard
IARC | International Agency for Research on Cancer
IATA | International Air Transport Association
IMDG | International Maritime Dangerous Goods
LC50 | Median lethal concentration
LD50 | Median lethal dose
LOAEL | Lowest Observed Adverse Effect Level
NOAEC | No-Observed Adverse Effect Concentration
NOAEL | No-Observed Adverse Effect Level
NOEC | No-Observed Effect Concentration
OECD | Organisation for Economic Co-operation and Development
OEL | Occupational Exposure Limit
PBT | Persistent Bioaccumulative Toxic
PNEC | Predicted No-Effect Concentration
RID | Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS | Safety Data Sheet
STP | Sewage treatment plant
ThOD | Theoretical oxygen demand (ThOD)
TLM | Median Tolerance Limit
VOC | Volatile Organic Compounds
CAS-No. | Chemical Abstract Service number
N.O.S. | Not Otherwise Specified
vPvB | Very Persistent and Very Bioaccumulative
ED | Endocrine disrupting properties

The classification complies with: ATP 12

SDS EU (REACH Annex II)

This product is a chemical substance and is intended to be used by persons having chemical knowledge and skill at their own discretion and risk. This SDS was prepared with our best knowledge based on the information obtained. However, it does not provide any warranty on the data and the assessment of hazards and toxicity information be covered. For use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, region and country where the product be used.

In case you use the information on SDS for important decision, we strongly recommend you to confirm the source of information and the data with your own investigation. Please be noted that the physicochemical data and contents indicated in this SDS are not guaranteed values, only a guide. The cautions stated are for normal handling only. Additional care may be required for any special handling. The data and/or information used on this SDS may be updated by new knowledge and/or amendments of the conventional theory. Therefore, please check the most updated version of SDS which is available at www.dojindo.com.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product form : Mixture
Trade name : Lysis Buffer

1.2. Relevant identified uses of the substance or mixture and uses advised against
1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
Recommended uses and restrictions : for research use only

1.3. Details of the supplier of the safety data sheet
Dojindo Laboratories
Tabaru 2025-5 Mashiki-machi, Kamimashiki-gun, Kumamoto 861-2202, Japan

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

Adverse physicochemical, human health and environmental effects
To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]
No labelling applicable

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surfactant substance listed as REACH Candidate (4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]) substance listed in REACH Annex XIV (4-(1,1,3,3-Tetramethylbutyl) phenol, ethoxylated (covering well-defined substances and UVCB substances, polymers and homologues)) substance identified as having endocrine disrupting properties</td>
<td>11</td>
<td>Not classified</td>
<td></td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation:
Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact:
Wash skin with plenty of water.

First-aid measures after eye contact:
Rinse eyes with water as a precaution.

First-aid measures after ingestion:
Call a poison center or a doctor if you feel unwell.

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

No additional information available

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:

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire:
Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting:
Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures:
Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment:
Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up:
Take up liquid spill into absorbent material.

Other information:
Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling:
Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures:
Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions:
Store in a refrigerator(0〜5℃). Keep tightly closed.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available
8.2. Exposure controls

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

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Colorless liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
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<td>Vapour pressure</td>
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<tr>
<td>Relative vapour density at 20 °C</td>
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<tr>
<td>Relative density</td>
<td>No data available</td>
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<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Pow)</td>
<td>No data available</td>
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<tr>
<td>Viscosity, kinematic</td>
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</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td></td>
</tr>
</tbody>
</table>

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

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

<table>
<thead>
<tr>
<th>Toxicological effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

12.1. Toxicity

Ecology - general: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute): Not classified

Hazardous to the aquatic environment, long-term (chronic): Not classified

Not rapidly degradable

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
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</thead>
<tbody>
<tr>
<td>Surfactant</td>
<td>This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII</td>
</tr>
<tr>
<td></td>
<td>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII</td>
</tr>
</tbody>
</table>

12.6. Other adverse effects
No additional information available
SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods: Dispose of contents/container in accordance with licensed collector’s sorting instructions.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

<table>
<thead>
<tr>
<th>ADR</th>
<th>IMDG</th>
<th>IATA</th>
<th>ADN</th>
<th>RID</th>
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</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

No supplementary information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions
Contains a substance on the REACH candidate list: Surfactant
Contains REACH Annex XIV substances: Surfactant

15.1.2. National regulations

Germany

Employment restrictions: Observe restrictions according Act on the Protection of Working Mothers (MuSchG)
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)
Water hazard class (WGK): WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1)
Hazardous Incident Ordinance (12. BImSchV): Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

ABM category: Z(1) - non biodegradable substances with hazardous properties for humans and the environment (carcinogenicity/ mutagenicity/ reprotoxicity/bioaccumulative potential/ toxicity or persistence)

SZW-list van kankerverwekkende stoffen: None of the components are listed
SZW-list van mutagene stoffen: None of the components are listed
SZW-list van reprotoxische stoffen – Borstvoeding: None of the components are listed
SZW-list van reprotoxische stoffen – Vruchtbaarheid: None of the components are listed
SZW-list van reprotoxische stoffen – Ontwikkeling: None of the components are listed

Switzerland

Storage class (LK): LK 10/12 - Liquids

15.2. Chemical safety assessment

No chemical safety assessment has been carried out
### Abbreviations and acronyms:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways</td>
</tr>
<tr>
<td>ADR</td>
<td>European Agreement concerning the International Carriage of Dangerous Goods by Road</td>
</tr>
<tr>
<td>ATE</td>
<td>Acute Toxicity Estimate</td>
</tr>
<tr>
<td>BCF</td>
<td>Bioconcentration factor</td>
</tr>
<tr>
<td>BLV</td>
<td>Biological limit value</td>
</tr>
<tr>
<td>BOD</td>
<td>Biochemical oxygen demand (BOD)</td>
</tr>
<tr>
<td>COD</td>
<td>Chemical oxygen demand (COD)</td>
</tr>
<tr>
<td>DMEL</td>
<td>Derived Minimal Effect level</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived-No Effect Level</td>
</tr>
<tr>
<td>EC-No.</td>
<td>European Community number</td>
</tr>
<tr>
<td>EC50</td>
<td>Median effective concentration</td>
</tr>
<tr>
<td>EN</td>
<td>European Standard</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods</td>
</tr>
<tr>
<td>LC50</td>
<td>Median lethal concentration</td>
</tr>
<tr>
<td>LD50</td>
<td>Median lethal dose</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>NOAEC</td>
<td>No-Observed Adverse Effect Concentration</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No-Observed Adverse Effect Level</td>
</tr>
<tr>
<td>NOEC</td>
<td>No-Observed Effect Concentration</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>OEL</td>
<td>Occupational Exposure Limit</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent Bioaccumulative Toxic</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted No-Effect Concentration</td>
</tr>
<tr>
<td>RID</td>
<td>Regulations concerning the International Carriage of Dangerous Goods by Rail</td>
</tr>
<tr>
<td>SDS</td>
<td>Safety Data Sheet</td>
</tr>
<tr>
<td>STP</td>
<td>Sewage treatment plant</td>
</tr>
<tr>
<td>ThOD</td>
<td>Theoretical oxygen demand (ThOD)</td>
</tr>
<tr>
<td>TLM</td>
<td>Median Tolerance Limit</td>
</tr>
<tr>
<td>VOC</td>
<td>Volatile Organic Compounds</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>Chemical Abstract Service number</td>
</tr>
<tr>
<td>N.O.S.</td>
<td>Not Otherwise Specified</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and Very Bioaccumulative</td>
</tr>
<tr>
<td>ED</td>
<td>Endocrine disrupting properties</td>
</tr>
</tbody>
</table>

The classification complies with: ATP 12

SDS EU (REACH Annex II)
This product is a chemical substance and is intended to be used by persons having chemical knowledge and skill at their own discretion and risk. This SDS was prepared with our best knowledge based on the information obtained. However, it does not provide any warranty on the data and the assessment of hazards and toxicity information be covered. For use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, region and country where the product be used.

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

1.1. Product identifier

Product form : Mixture
Trade name : Stop Solution

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
Recommended uses and restrictions : for research use only

1.3. Details of the supplier of the safety data sheet

Dojindo Laboratories
Tabaru 2025-5 Mashiki-machi, Kamimashiki-gun, Kumamoto 861-2202, Japan

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Skin corrosion/irritation, Category 1 H314
Serious eye damage/eye irritation, Category 1 H318

Adverse physicochemical, human health and environmental effects
Causes severe skin burns and eye damage. Causes serious eye damage.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS05

Signal word (CLP) : Danger
Hazard statements (CLP) : H314 - Causes severe skin burns and eye damage.
Precautionary statements (CLP) : P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P330+P331+P310 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.
P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.. Immediately call a POISON CENTER or doctor.
P305+P351+P338+P310 - 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 or doctor.
P321 - Specific treatment (see supplemental first aid instruction on this label).

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable
### 3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surfactant substance listed as REACH Candidate (4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated (covering well-defined substances and UVCB substances, polymers and homologues))</td>
<td></td>
<td>5</td>
<td>Not classified</td>
</tr>
<tr>
<td>substance listed in REACH Annex XIV (4-(1,1,3,3-Tetramethylbutyl)phenol, ethoxylated (covering well-defined substances and UVCB substances, polymers and homologues))</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>substance identified as having endocrine disrupting properties</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

**First-aid measures general**: Call a physician immediately.

**First-aid measures after inhalation**: Remove person to fresh air and keep comfortable for breathing.

**First-aid measures after skin contact**: Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.

**First-aid measures after eye contact**: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

**First-aid measures after ingestion**: Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

**Symptoms/effects after skin contact**: Burns.

**Symptoms/effects after eye contact**: Serious damage to eyes.

**Symptoms/effects after ingestion**: Burns.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media


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

**Hazardous decomposition products in case of fire**: Toxic fumes may be released.

#### 5.3. Advice for firefighters

**Protection during firefighting**: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

**Emergency procedures**: Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

##### 6.1.2. For emergency responders

**Protective equipment**: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

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

**Methods for cleaning up**: Take up liquid spill into absorbent material.
6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.
Hygiene measures: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store in a refrigerator(0〜5℃). Keep tightly closed.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
No additional information available
8.2. Exposure controls
Appropriate engineering controls: Ensure good ventilation of the work station.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties
Physical state: Liquid
Colour: Colorless liquid.
Odour: odourless.
Odour threshold: No data available
pH: 1.4 – 2
Relative evaporation rate (butylacetate=1): No data available

Other information: Dispose of materials or solid residues at an authorized site.
### Cytotoxicity LDH Assay Kit-WST

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
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<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
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<td>Flammability (solid, gas)</td>
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<td>Vapour pressure</td>
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<td>Relative vapour density at 20 °C</td>
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<td>Relative density</td>
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<td>Solubility</td>
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<td>Partition coefficient n-octanol/water (Log Pow)</td>
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<tr>
<td>Viscosity, dynamic</td>
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<td>Explosive properties</td>
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<tr>
<td>Oxidising properties</td>
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</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### 9.2. Other information
No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical stability
Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

#### 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes severe skin burns. pH: 1.4 – 2</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye damage. pH: 1.4 – 2</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
SECTION 12: Ecological information

12.1. Toxicity

Ecology - general: Before neutralisation, the product may represent a danger to aquatic organisms.
Hazardous to the aquatic environment, short-term (acute): Not classified
Hazardous to the aquatic environment, long-term (chronic): Not classified

Not rapidly degradable

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment

<table>
<thead>
<tr>
<th>Component</th>
<th>PBT</th>
<th>vPvB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surfactant</td>
<td>This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII</td>
<td>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII</td>
</tr>
</tbody>
</table>

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste treatment methods: Dispose of contents/container in accordance with licensed collector’s sorting instructions.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

<table>
<thead>
<tr>
<th>ADR</th>
<th>IMDG</th>
<th>IATA</th>
<th>ADN</th>
<th>RID</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

No supplementary information available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Rules
Contains no REACH substances with Annex XVII restrictions
Contains a substance on the REACH candidate list: Surfactant
Contains REACH Annex XIV substances: Surfactant

15.1.2. National regulations

Germany
Employment restrictions: Observe restrictions according Act on the Protection of Working Mothers (MuSchG)
Water hazard class (WGK): WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1)

Netherlands
ABM category: Z(1) - non biodegradable substances with hazardous properties for humans and the environment (carcinogenicity/ mutagenicity/ reprotoxicity/bioaccumulative potential/ toxicity or persistence)

Szw-lijst van kankerverwekkende stoffen: None of the components are listed
Szw-lijst van mutagene stoffen: None of the components are listed
Szw-lijst van reprotoxische stoffen – Borstvoeding: None of the components are listed
Szw-lijst van reprotoxische stoffen – Vruchtbaarheid: None of the components are listed
Szw-lijst van reprotoxische stoffen – Ontwikkeling: None of the components are listed

Denmark
Danish National Regulations: Young people below the age of 18 years are not allowed to use the product

Switzerland
Storage class (LK): LK 8 - Corrosive materials

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

<table>
<thead>
<tr>
<th>Abbreviations and acronyms:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
</tr>
<tr>
<td>ADR</td>
</tr>
<tr>
<td>ATE</td>
</tr>
<tr>
<td>BCF</td>
</tr>
<tr>
<td>BLV</td>
</tr>
<tr>
<td>BOD</td>
</tr>
<tr>
<td>COD</td>
</tr>
<tr>
<td>DMEL</td>
</tr>
<tr>
<td>DNEL</td>
</tr>
<tr>
<td>EC-No.</td>
</tr>
<tr>
<td>EC50</td>
</tr>
<tr>
<td>EN</td>
</tr>
<tr>
<td>IARC</td>
</tr>
<tr>
<td>IATA</td>
</tr>
<tr>
<td>IMDG</td>
</tr>
<tr>
<td>LC50</td>
</tr>
<tr>
<td>LD50</td>
</tr>
<tr>
<td>LOAEL</td>
</tr>
<tr>
<td>NOAEC</td>
</tr>
<tr>
<td>NOAEL</td>
</tr>
<tr>
<td>NOEC</td>
</tr>
<tr>
<td>OECD</td>
</tr>
<tr>
<td>Acronym</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>OEL</td>
</tr>
<tr>
<td>PBT</td>
</tr>
<tr>
<td>PNEC</td>
</tr>
<tr>
<td>RID</td>
</tr>
<tr>
<td>SDS</td>
</tr>
<tr>
<td>STP</td>
</tr>
<tr>
<td>ThOD</td>
</tr>
<tr>
<td>TLM</td>
</tr>
<tr>
<td>VOC</td>
</tr>
<tr>
<td>CAS-No.</td>
</tr>
<tr>
<td>N.O.S.</td>
</tr>
<tr>
<td>vPvB</td>
</tr>
<tr>
<td>ED</td>
</tr>
</tbody>
</table>

**Full text of H- and EUH-statements:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>Skin Corr. 1</td>
<td>Skin corrosion/irritation, Category 1</td>
</tr>
</tbody>
</table>

The classification complies with ATP 12

SDS EU (REACH Annex II)

This product is a chemical substance and is intended to be used by persons having chemical knowledge and skill at their own discretion and risk. This SDS was prepared with our best knowledge based on the information obtained. However, it does not provide any warranty on the data and the assessment of hazards and toxicity information be covered. For use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, region and country where the product be used. In case you use the information on SDS for important decision, we strongly recommend you to confirm the source of information and the data with your own investigation. Please be noted that the physicochemical data and contents indicated in this SDS are not guaranteed values, only a guide. The cautions stated are for normal handling only. Additional care may be required for any special handling. The data and/or information used on this SDS may be updated by new knowledge and/or amendments of the conventional theory. Therefore, please check the most updated version of SDS which is available at www.dojindo.com.