Safety Datasheet

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifiers

Product Name: PD-L1 ELISA Kit, Human

Catalog Number: HKR-ELHPDL1-U

Components: Anti-PD-L1 Antibody Immobilized Plate (contains Proclin 150)

PD-L1 Standard (contains Proclin 150)

Assay Buffer (contains Proclin 150)

Washing Buffer (10X) (contains Proclin 150)

HRP Conjugated Anti-PD-L1 Antibody (250X) (contains Proclin 150)

Substrate Solution (contain Tetramethylbenzidine, Hydrogen peroxide)

Stop Solution (contains Sulfuric Acid)

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

Recommended use: For research use only

Uses advised against: No information available

1.3 Details of the supplier of the safety data sheet

Company: Hakarel, Inc.

7-7-18 Saito-asagi, Ibaraki-shi, 567-0085 Japan

Telephone/Fax: +81-72-657-9980

Email address: info@hakarel.com

Internet: www.hakarel.com

1.4 Emergency Telephone Number

Emergency Tel: +81-72-657-9980

2. HAZARDS IDENTIFICATION

See additional safety data sheets.

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THECOMPANY/UNDERTAKING

1.1 Product Identifiers

Product Name: Anti-PD-L1 Antibody Immobilized Plate (contains Proclin 150)

PD-L1 Standard (contains Proclin 150)

Assay Buffer (contains Proclin 150)

Washing Buffer (10X) (contains Proclin 150)

HRP Conjugated Anti-PD-L1 Antibody (250X) (contains Proclin 150)

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

Recommended use: For research use only

Uses advised against: No information available

1.3 Details of the supplier of the safety data sheet

Company: Hakarel, Inc.

7-7-18 Saito-asagi, Ibaraki-shi, 567-0085 Japan

Telephone/Fax: +81-72-657-9980

Email address: info@hakarel.com

Internet: www.hakarel.com

1.4 Emergency Telephone Number

Emergency Tel: +81-72-657-9980

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008(CLP/GHS) or 29 CFR 1910.1200 (OSHA)

Some components indicated above contain ProClin 150.

・Skin Sensitization Category 1, H317

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

・Pictogram

・Signal Word

WARNING

・Hazard statements

H317: May cause an allergic skin reaction

・Precautionary statements:

P261: Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray

P272: Contaminated work clothing should not be allowed out of the workplace

P280: Wear protective gloves/ eye protection/ face protection

P363: Wash contaminated clothing before reuse

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

P333 + P313: If skin irritation or rash occurs: Get medical advice/ attention

P501: Dispose of contents/ container to an approved waste disposal plant

2.3 Other information

・No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Component	CAS No.	EC-No.	Classification	Content
Mixture of substances of the components, 5-Chloro-2-methyl-4-isothiazolin-3-one and 2-Methyl-2H -isothiazol-3-one(ProClin 150: active ingredient 1.5%)	55965-84-9	-	Skin Sens. 1 (H317)	< 0.01%

For the full text of the H-Statements mentioned in this Section, see Section 16

4. FIRST AID MEASURES

4.1 Description of first aid measures

・General advice　If symptoms persist, call a physician.

・Eye contact　Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

・Skin contact　Wash off immediately with soap and plenty of water while removing all Contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.

・Ingestion　Clean mouth with water. Drink plenty of water.

・Inhalation　Move to fresh air.

4.2 Most important symptoms and effects, both acute and delayed

・Main symptoms see section 2.2.

4.3 Indication of any immediate medical attention and special treatment needed

・Notes to physician Treat symptomatically. May cause sensitization of susceptible persons.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

・Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

・Extinguishing media which shall not be used for safety reasons

No information available.

5.2 Special hazards arising from the substance or mixture

・Special hazard

None in particular.

5.3 Advice for fire-fighters

・Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

6. ACCIDENTIAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid contact with the skin and the eyes.

See Section 12 for additional information.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Follow proper safety guidelines for handling chemical, biological and laboratory hazards.

Do not smoke, eat, or drink in areas where patient samples and kit reagents are handled.

Avoid contact with skin and eyes. Ensure adequate ventilation. Wear personal protective equipment.

Wash your hands after use.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of the reach of children. Keep container tightly closed. Keep containers tightly closed in a cool, well-ventilated place. Store according to product and label instructions (generally at 2-8℃).

7.3 Specific end uses

Specific use(s) No information available.

Exposure scenario No information available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

・Contains no substances with occupational exposure limit values.

8.2 Exposure controls

・Engineering measures	Ensure adequate ventilation, especially in confined areas.
・Personal protective equipment	
Eye protection	Tightly fitting safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Hand protection	Protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Skin and body protection	Long sleeved clothing.
Respiratory protection	In case of inadequate ventilation wear respiratory protection.
Respiratory	protection with an appropriate filter that is EN143 or EN141 / NIOSH/MSHA approved should be worn.
Thermal hazards	No information available
・Hygiene measures	When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.
・Environmental exposure controls	Do not allow material to contaminate ground water system.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

・Physical State @20°C	No information available.	Appearance	Clear Liquid
・Odor	No information available.		

・Property Values

pH	No information available.
Melting/freezing point	No information available.
Boiling point/boiling range	No information available.
Flash Point	No information available.

Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Flammability Limits in Air	No information available.
Vapor pressure	No information available.
Vapor density	No information available.
Relative density	No information available.
Water solubility	Soluble.
Solubility in other solvents	No information available.
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, kinematic	No information available.
Explosive properties	No information available.

9.2 Other information

・VOC Content(%) No information available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

・No information available

10.2 Chemical stability

・Stable under normal conditions.

10.3 Precautionary Statements

・None under normal processing.

10.4 Conditions to avoid

・Strong oxidizing agents, reducing agents, Amines, Mercaptans

10.5 Incompatible materials

・None in particular

10.6 Hazardous decomposition products

・None under normal use conditions.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

・Acute toxicity

Product Information	May cause sensitization of susceptible persons.
Inhalation	No information available.
Eye contact	No information available.

Ingestion No information available.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Proclin	53 mg/kg (Rat)		

・Chronic Toxicity

Sensitization: Contains a small volume of a very dilute, sensitizing preservative (ProClin 150); though the potential for an allergic response is greatly reduced by the dilution, sensitization threshold is unknown; thus, handle accordingly.

Carcinogenicity: No carcinogenic effect known. No component, mixture or constituent has been classified as a carcinogen by NTP, IARC or OSHA.

Germ Cell Mutagenicity: No information available.

Reproductive Hazard: No reproductive toxic effect known.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

・・Ecotoxicity effects:

As supplied, the preparation is not expected to present significant adverse environmental effects.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

・Waste from residues / unused products Dispose of in accordance with local regulations.

・Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

・Other information According to the European Waste Catalogue, Waste Codes are not

product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

14. TRANSPORT INFORMATION

UN Number: None

DOT regulations: Hazard class: None

Land transport ADR/RID (cross-border): Not regulated.

Maritime transport IMDG: Not regulated.

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR: Not regulated.

Transport/Additional information: Not dangerous according to the above specifications.

15. REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

No information available.

15.2 Chemical Safety Assessment

No information available.

16. OTHER INFORMATION

・Full text of H-Statements referred to under sections 2 and 3

H317 - May cause an allergic skin reaction

・Further Information

This company shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

End of safety data sheet

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THECOMPANY/UNDERTAKING

1.1 Product Identifiers

Product Name: Stop Solution (contains Sulfuric Acid)

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

Recommended use: For research use only

Uses advised against: No information available

1.3 Details of the supplier of the safety data sheet

Company: Hakarel, Inc.

7-7-18 Saito-asagi, Ibaraki-shi, 567-0085 Japan

Telephone/Fax: +81-72-657-9980

Email address: info@hakarel.com

Internet: www.hakarel.com

1.4 Emergency Telephone Number

Emergency Tel: +81-72-657-9980

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008(CLP/GHS) or 29 CFR 1910.1200 (OSHA)

- Skin irritation Category 2, H315
- Eye irritation Category 2, H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

- Pictogram

- Signal word Warning
- Hazard statement(s)

H315 Causes skin irritation.

H319 Causes serious eye irritation.

- Precautionary statement(s)

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+352 IF ON SKIN: Wash with plenty of soap and water.

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

P321 Specific treatment (see Section 4).

P332+313 If skin irritation occurs: Get medical advice/attention.

P337+313 If eye irritation persists: Get medical advice/attention.

P362+364 Take off contaminated clothing and wash it before reuse.

2.3 Other hazards

none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Component	CAS No.	EC No.	Classification	Content
Sulfuric Acid	7664-93-9	231-639-5	Skin Irrit. 2, H315 Eye Irrit. 2, H319	9.8%
Water	7732-18-5	231-791-2	-	90.2%

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

・General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

・If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

・In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

・In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

・If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

・Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

In case of fire, toxic and corrosive gases may be formed.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6. ACCIDENTIAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closedcontainers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid inhalation of vapour or mist.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

・Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

・Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

・Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Wear suitable protective clothing as protection against splashing or contamination.

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid Colour: colourless
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	~1
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available

j) Upper/lower flammability or explosive limits No data available

k) Vapour pressure No data available

l) Vapour density No data available

m) Relative density No data available

n) Water solubility Soluble

o) Partition coefficient: noctanol/ water No data available

p) Auto-ignition temperature No data available

q) Decomposition temperature No data available

r) Viscosity No data available

s) Explosive properties No data available

t) Oxidizing properties No data available

9.2 Other safety information

No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

Contact with metals produces highly flammable hydrogen gas. Addition of water liberates excessive heat.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Bases, Halides, Metals, Alkalis, Acetonitrile.

10.5 Incompatible materials

Most metals, oxidizers, reducers, bases, metal carbonates, cyanides, sulphides, carbides, oxides, metal acetylides, hydrides, halogens, organic or combustible materials, percholorates, acetonitrile, permanganates, alcohols, picrates.

10.6 Hazardous decomposition products

Products formed under fire conditions: oxides of sulphur, hydrogen gas.

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

・Acute toxicity

Can cause severe burns upon contact while the vapours or mist are corrosive and can cause severe

irritation or damage to the nose, throat and lungs. Ingestion of this product causes pain, nausea and vomiting and may be fatal if large doses are ingested.

- Skin corrosion/irritation

  Can cause severe burns.

- Serious eye damage/eye irritation

  Can cause severe burns.

- Respiratory or skin sensitisation

  No data available

- Germ cell mutagenicity

  No data available

- Carcinogenicity

  IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

- Reproductive toxicity

  No data available

- Specific target organ toxicity - single exposure

  No data available

- Specific target organ toxicity - repeated exposure

  No data available

- Aspiration hazard

  Can cause severe burns.

- Additional Information

  RTECS: Not available

  To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

This product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

・Product

Dispose of waste in accordance to applicable national, regional, or local regulations.

・Contaminated packaging

Dispose in the same manner as unused product.

14. TRANSPORT INFORMATION

ADR/RID ADN/ADNR IMDG IATA/DOT

ADR/RID:	UN Number:	UN 2796
	Proper Shipping Name:	SULPHURIC ACID
	Hazard class:	8
	Packing group:	II
	Environmental hazards	no
IATA:	UN Number:	UN 2796
	Proper Shipping Name:	Sulphuric acid
	Hazard class:	8
	Packing group:	II
	Environmental hazards	no
IMDG:	UN Number:	UN 2796
	Proper Shipping Name:	SULPHURIC ACID
	Hazard class:	8
	Packing group:	II
	Environmental hazards	Marine Pollutant No

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

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

TSCA (Toxic Substances Control Act) : On TSCA Inventory

SARA 313 : Not applicable.

SARA 311/312 :	Acute health hazard
CERCLA Reportable Quantity :	1000 lbs.
California Proposition 65 :	
Sulfuric Acid	Not applicable.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been made for this product.

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16. OTHER INFORMATION

・Full text of H-Statements referred to under sections 2 and 3.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

・Further Information

This company shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

End of safety data sheet

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THECOMPANY/UNDERTAKING

1.1 Product Identifiers

Product Name: Substrate Solution (contains Tetramethylbenzidine and Hydrogen peroxide)

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

Recommended use: For research use only

Uses advised against: No information available

1.3 Details of the supplier of the safety data sheet

Company: Hakarel, Inc.

7-7-18 Saito-asagi, Ibaraki-shi, 567-0085 Japan

Telephone/Fax: +81-72-657-9980

Email address: info@hakarel.com

Internet: www.hakarel.com

1.4 Emergency Telephone Number

Emergency Tel: +81-72-657-9980

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 or 29 CFR 1910.1200 (OSHA)

・Ozone Not applicable

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

・Signal Word Not dangerous

・Hazard statement(s)

Not applicable

・Precautionary Statement(s):

P280 Wear protective gloves/protective clothing.

2.3 Other information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Component	CAS No.	EC-No.	Classification	Content
Tetramethylbenzidine	54827-17-7	-		< 0.05%

Hydrogen peroxide	7722-84-1	231-765-0		< 0.010%

4. FIRST AID MEASURES

4.1 Description of first aid measures

- Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
- Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
- Ingestion: Clean mouth with water. Drink plenty of water.
- Inhalation: Move to fresh air.

4.2 Most important symptoms and effects, both acute and delayed

- Main symptoms: see section 2.2.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

- Suitable extinguishing media

  Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Extinguishing media which shall not be used for safety reasons

  No information available.

5.2 Special hazards arising from the substance or mixture

- Special hazard

  None in particular.

5.3 Advice for fire-fighters

- Special protective equipment for fire-fighters

  As in any fire, wear self-contained breathing apparatus and full protective gear.

6. ACCIDENTIAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- Ensure adequate ventilation.

  See Section 12 for additional information.

6.2 Environmental precautions

- Prevent further leakage or spillage if safe to do so.

6.3 Methods and materials for containment and cleaning up

・Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Ensure adequate ventilation.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end uses

・Specific use(s) No information available.

・Exposure scenario No information available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limits National occupational exposure limits

Chemical Name	European Union	United Kingdom	France	Spain	Germany
Hydrogen peroxide 7722-84-1		STEL: 2 ppm STEL:2.8 mg/m^3 TWA: 1 ppm TWA: 1.4mg/m^3	VME: 1 ppm VME: 1.5mg/m^3	VLA-ED: 1 ppm VLA-ED: 1.4 mg/m^3	MAK: 0.5 ppm MAK:0.71 mg/m^3 Ceiling / Peak: 0.5ppm Ceiling / Peak: 0.71 mg/m^3 Skin
Chemical Name	Italy	Portugal	Netherlands	Finland	Denmark
Hydrogen peroxide 7722-84-1		TWA: 1 ppm		TWA: 1 ppm TWA: 1.4mg/m^3 STEL: 3 ppm STEL:4.2 mg/m^3	TWA: 1 ppm TWA: 1.4mg/m^3
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Hydrogen peroxide	STEL 2 ppm STEL	STEL: 0.5 ppm STEL:0.71	NDSCh: 4 mg/m^3	TWA: 1 ppm TWA:	TWA: 1 ppm TWA:

7722-84-1	2.8mg/m^3 MAK: 1 ppm MAK: 1.4mg/m^3	mg/m^3 MAK: 0.5 ppm MAK:0.71mg/m^3	NDS: 1.5 mg/m^3	1.4mg/m^3 STEL: 3 ppm STEL:2.8 mg/m^3	1.5mg/m^3 STEL: 2 ppm STEL: 3mg/m^3

・Derived No Effect Level　No information available

・Predicted No Effect Concentration　No information available

8.2　Exposure controls

・Engineering measures　Ensure adequate ventilation, especially in confined areas.

・Personal protective equipment

Eye protection　Tightly fitting safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hand protection　Protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Skin and body protection　Long sleeved clothing.

Respiratory protection　In case of inadequate ventilation wear respiratory protection. Respiratory protection with an appropriate filter that is EN143 or EN141 / NIOSH/MSHA approved should be worn.

Thermal hazards　No information available

・Hygiene measures　Handle in accordance with good industrial hygiene and safety practice.

・Environmental exposure controls　No information available.

9.　PHYSICAL AND CHEMICAL PROPERTIES

9.1　Information on basic physical and chemical properties

・Physical State @20°C:　No information available　・Appearance:　No information available

・Odor: No information available

・Property	Values
pH	No information available
Melting/freezing point	No information available
Boiling point/boiling range	No information available
Flash Point	No information available
Evaporation rate	No information available

Flammability (solid, gas)	No information available
Flammability Limits in Air	No information available
Vapor pressure	No information available
Vapor density	No information available
Relative density	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient: n-octanol/water	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Explosive properties	No information available

9.2 Other safety information

・VOC Content(%) No data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

No information available.

10.2 Chemical stability

Stable under normal conditions.

10.3 Precautionary Statements

None under normal processing.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

None in particular.

10.6 Hazardous decomposition products

None under normal use conditions.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

・Acute toxicity

Product Information	Product does not present an acute toxicity hazard based on known or supplied information
Inhalation	There is no data available for this product.

Eye contact There is no data available for this product.

Skin contact There is no data available for this product.

Ingestion There is no data available for this product.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrogen peroxide	801 mg/kg (Rat)	4060 mg/kg (Rat) 2000 mg/kg (Rabbit)	2 mg/L (Rat) 4 h

・Chronic toxicity

carcinogenicity This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

Corrosivity No information available.

Sensitization No information available.

Neurological effects No information available.

Reproductive toxicity No information available.

Mutagenic effects No information available.

Target Organ Effects No information available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Ecotoxicity effects As supplied, the preparation is not expected to present significant adverse environmental effects.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Hydrogen peroxide	2.5: 72 h Chlorella vulgaris mg/L EC50	16.4: 96 h Pimephales promelas mg/L LC50 18-56:96 h Lepomis macrochirus mg/L LC50 static 10.0-32.0: 96 h Oncorhynchus mykiss mg/L LC50 static		7.7: 24 h Daphnia magna mg/L EC50 18 - 32: 48 h Daphnia magna mg/L EC50 Static

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

ADR	Not dangerous goods
IATA	Not dangerous goods
DOT	Not dangerous goods

15. REGULATORY INFORMATION

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

No information available.

15.2 Chemical safety assessment

No information available.

16. OTHER INFORMATION

・Further Information

This company shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The

absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

End of safety data sheet