

Western Blotting Luminol Reagent: sc-2048

PRODUCT

Santa Cruz Biotechnology offers Western Blotting Luminol Reagent for enhanced chemiluminescence detection of Western blots. Luminol should be used in conjunction with horseradish peroxidase (HRP)-conjugated primary antibodies, HRP-conjugated secondary antibodies or mouse IgG binding proteins. One Luminol package contains 125 ml each Solution A and Solution B, which combine to form sufficient reagent for a 2,000 cm² membrane area.

PROCEDURE

- Perform Western blot onto nitrocellulose or PVDF membrane according to Santa Cruz Biotechnology Protocols or according to standard protocols. For direct ECL detection, we recommend the use of SCBT's horseradish peroxidase (HRP)-conjugated primary antibodies. For indirect detection, probe membrane with primary antibody followed by HRP-conjugated secondary antibody or mouse IgG binding protein (m-IgGκ-BP-HRP: [sc-516102](#), or m-IgGλ-BP-HRP: [sc-516132](#)). For a Cruz Marker™ ([sc-2035](#)) compatible mouse IgG kappa binding protein, use m-IgGκ BP-HRP (Cruz Marker) ([sc-516102-CM](#)), or m-IgGλ BP-HRP (Cruz Marker) ([sc-516132-CM](#)).

- Wash membrane three times for 5 minutes each with 1x TBS, 0.05% Tween-20. Wash once for 5 minutes with 1x TBS [1x Tris buffered saline (TBS): 50 mM Tris-HCl, pH 7.4; 150 mM NaCl].
- Mix equal quantities of Luminol Reagent Solution A and Solution B by inversion in a screw cap vial. Use 0.125 ml/cm² total volume.
- Pour off TBS wash from the nitrocellulose or PVDF membrane. Add the mixed Luminol Reagent Solutions to the membrane, protein side facing up. Incubate for 1 minute at room temperature.
- Pour off excess Luminol Reagent, or lift membrane with tweezers to drain excess Reagent and lightly dab the edge of the membrane with a chemwipe to remove excess solution. Use caution not to wipe or smear the membrane surface.
- Tightly cover the membrane, protein side facing up, with a single layer of plastic wrap. Be careful to prevent the formation of wrinkles or bubbles between the membrane and the plastic wrap.
- Carefully tape the plastic wrapped membrane, protein side facing up, to the paper backing. If desired, label membrane by applying phosphorescent tape to the outside of the plastic wrap. Place in the film cassette.
- In a darkroom, expose membrane to film for 1 minute and develop according to standard protocols for autoradiogram. Exposure period may be increased as necessary.

STORAGE

Luminol Reagent Solutions are stable at room temperature for one hour. Store at 2-8° C for longer periods.

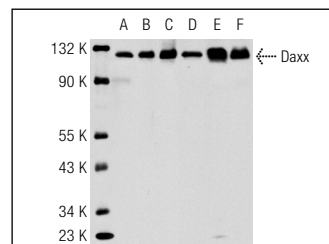
RESEARCH USE

For research use only, not for use in diagnostic procedures.

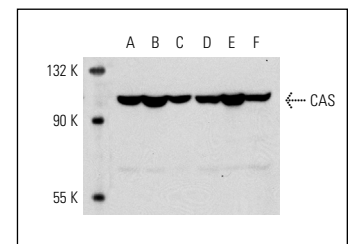
NOTES

- Have all materials ready before beginning the procedure. The following materials are needed: plastic wrap (enough to cover the blot), scissors, tweezers, tape, several pieces of film, film cassette, paper backing (size of film cassette) and a screw cap vial.
- Solutions contain chemicals that may bleach skin or clothing. Always wear gloves, protective clothing and eyewear to avoid solution contact.
- Nitrocellulose or PVDF membrane should be handled with tweezers or gloved hands only.
- Work quickly and carefully as maximal detection and light emission due to enzymatic reaction occur during the first hour.
- If high backgrounds are observed following a 1 minute exposure of membrane to film, allow membrane to sit in the dark for 20-30 minutes at room temperature, followed by an additional 1 minute exposure of membrane to film. Alternatively, repeat the Western blot with a higher dilution of secondary antibody or mouse IgG binding proteins (up to 1:10,000).

DATA



Daxx (M-112): sc-7152. Western blot analysis of Daxx expression in HeLa (A), BJAB (B), Ramos (C), K-562 (D), RAW 264.7 (E) and WEHI-231 (F) whole cell lysates.



CAS (N-19): sc-1709. Western blot analysis of CAS expression in NIH/3T3 (A), RAW 264.7 (B) and MM-142 (C) nuclear extracts and EOC 20 (D), F9 (E) and c4 (F) whole cell lysates.

SELECT PRODUCT CITATIONS

- Blumenthal, T., et al. 2000. Degranulating eosinophils in human endometriosis. *Am. J. Pathol.* 156: 1581-1588.
- Blanco, E., et al. 2012. Attenuation of cocaine-induced conditioned locomotion is associated with altered expression of hippocampal glutamate receptors in mice lacking LPA1 receptors. *Psychopharmacology* 220: 27-42.
- Vega-Naredo, I., et al. 2012. Melatonin modulates autophagy through a redox-mediated action in female syrian hamster Harderian gland controlling cell types and gland activity. *J. Pineal Res.* 52: 80-92.
- Burmeister, D., et al. 2012. Impact of partial urethral obstruction on bladder function: time-dependent changes and functional correlates of altered expression of Ca²⁺ signaling regulators. *Am. J. Physiol. Renal Physiol.* 302: F1517-F1528.
- Moreno-Igoa M., et al. 2012. Non-viral gene delivery of the GDNF, either alone or fused to the C-fragment of tetanus toxin protein, prolongs survival in a mouse ALS model. *Restor. Neurol. Neurosci.* 30: 69-80.



The Power to Question

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 02-Dec-2019

Version 2.3

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

Product identifier

Product Name Western Blotting Luminol Reagent: Solution A
Product Code SC-2048

Recommended use of the chemical and restrictions on use

For research use only. Not intended for diagnostic or therapeutic use.

Details of the supplier of the safety data sheet

Santa Cruz Biotechnology, Inc.
10410 Finnell Street
Dallas, TX 75220
831.457.3800
800.457.3801
scbt@scbt.com

Emergency telephone number

Chemtrec
1.800.424.9300 (Within USA)
+1.703.527.3887 (Outside USA)

2. HAZARDS IDENTIFICATION

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122).

Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

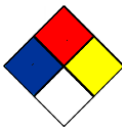
Label elements

Signal word Not classified
Hazard statements Not classified
Symbols/Pictograms Not classified
Precautionary Statements - Prevention Wash hands thoroughly after handling
Precautionary Statements - Response IF exposed or concerned: Get medical advice/attention

Hazards not otherwise classified (HNOC)

Hazards not otherwise classified (HNOC) Not applicable

Other Information

NFPA Health hazards -
Flammability -
Stability -
Physical and chemical properties -
 **HMIS** Health hazards -
Flammability -
Physical hazards -
Personal protection -

3. COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Weight No information available
Formula No information available

Chemical name	CAS No.	Weight-%	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	>95	> 90 mL/kg (Rat)	-	-
Dimethyl Sulfoxide (DMSO)	67-68-5	1 - 5	= 28300 mg/kg (Rat)	= 40 g/kg (Rat)	-

			= 14500 mg/kg (Rat)		
Tris base	77-86-1	1 - 5	= 5900 mg/kg (Rat)	-	-
Luminol	521-31-3	<0.1	-	-	-
p-Coumaric acid	501-98-4	<0.1	-	-	-

4. FIRST AID MEASURES

First Aid Measures

General advice	Consult a physician if necessary. Remove to fresh air.
Eye contact	Wash with plenty of water.
Skin Contact	Wash skin with soap and water.
Inhalation	Remove to fresh air If breathing is difficult, give oxygen If not breathing, give artificial respiration
Ingestion	Never give anything by mouth to an unconscious person. Clean mouth with water.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.
Hazardous combustion products	No information available.

Explosion data

Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.
Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store at 4 °C.
 Incompatible materials None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).
 Skin and Body Protection Wear protective gloves and protective clothing.
 Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
 General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State liquid
 Appearance No information available
 Odor No information available

Property

Property	Values
pH	No information available
Melting point/freezing point	No information available
Boiling point	No information available
Flash point	No information available
Liquid Density	No information available
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

10. STABILITY AND REACTIVITY

Reactivity	Not applicable
Chemical stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	No information available.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	Strong oxidizing agents.
Hazardous Decomposition Products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	No data available.
Eye contact	No data available.
Skin Contact	No data available.
Ingestion	No data available.

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg (Rat)	-	-
Dimethyl Sulfoxide (DMSO) 67-68-5	= 28300 mg/kg (Rat) = 14500 mg/kg (Rat)	= 40 g/kg (Rat)	-
Tris base 77-86-1	= 5900 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms	No information available.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity	No information available.
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Numerical measures of toxicity - Product Information

Unknown acute toxicity	No information available
The following values are calculated based on chapter 3.1 of the GHS document	
ATEmix (dermal)	1843318 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity	May cause long lasting harmful effects to aquatic life
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Chemical name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Dimethyl Sulfoxide (DMSO) 67-68-5	12350 - 25500: 96 h Skeletonema costatum mg/L EC50	34000: 96 h Pimephales promelas mg/L LC50 33 - 37: 96 h Oncorhynchus mykiss g/L LC50 static 40: 96 h Lepomis macrochirus g/L LC50 static 41.7: 96 h Cyprinus carpio g/L LC50	-	7000: 24 h Daphnia species mg/L EC50

0.05% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Persistence and degradability	No information available.
Bioaccumulation	No information available.
Mobility	No information available.

Chemical name	Partition coefficient
Dimethyl Sulfoxide (DMSO) 67-68-5	-2.03

13. DISPOSAL CONSIDERATIONS

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

14. TRANSPORT INFORMATION

DOT Not regulated

IMDG Not regulated

IATA Not regulated

15. REGULATORY INFORMATION

International Inventories

All of the components in the product are on the following Inventory lists

China (IECSC)

Chemical name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Water	X	X	-	X	-	-	X	X	X	X
Dimethyl Sulfoxide (DMSO)	X	X	-	X	-	X	X	X	X	X
Tris base	X	X	-	X	-	X	X	X	X	X
Luminol	X	X	-	X	-	-	X	-	X	X
p-Coumaric acid	-	-	-	-	-	-	X	-	-	-

X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard No

Chronic Health Hazard No

Fire hazard No

Sudden release of pressure hazard No

Reactive hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40

CFR 122.42).

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Dimethyl Sulfoxide (DMSO) 67-68-5	X	Not Listed	Not Listed

16. OTHER INFORMATION

Revision note

No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



The Power to Question

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 02-Dec-2019

Version 2

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

Product identifier

Product Name Western Blotting Luminol Reagent: Solution B
Product Code SC-2048 VIAL 2

Recommended use of the chemical and restrictions on use

For research use only. Not intended for diagnostic or therapeutic use.

Details of the supplier of the safety data sheet

Santa Cruz Biotechnology, Inc.
10410 Finnell Street
Dallas, TX 75220
831.457.3800
800.457.3801
scbt@scbt.com

Emergency telephone number

Chemtrec
1.800.424.9300 (Within USA)
+1.703.527.3887 (Outside USA)

2. HAZARDS IDENTIFICATION

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification

Acute toxicity - Inhalation (Dusts/Mists)
Skin corrosion/irritation
Serious eye damage/eye irritation

Category 3
Category 1 Sub-category A
Category 1

Label elements

Signal word
Hazard statements

Danger
Toxic if inhaled
Causes severe skin burns and eye damage

Symbols/Pictograms



Precautionary Statements - Prevention

Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
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/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Storage



Precautionary Statements - Disposal

Store locked up
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

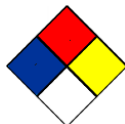
Hazards not otherwise classified (HNOC)

Not applicable

Other Information**NFPA**

Health hazards -
Flammability -
Stability -
Physical and chemical properties -

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**HMIS**

Health hazards -
Flammability -
Physical hazards -
Personal protection -

3. COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Weight
Formula

No information available
No information available

Chemical name	CAS No.	Weight-%	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	>90	> 90 mL/kg (Rat)	-	-
Hydrogen Peroxide	7722-84-1	5 - 10	= 1518 mg/kg (Rat)	= 9200 mg/kg (Rabbit)	= 2000 mg/m ³ (Rat) 4 h

4. FIRST AID MEASURES**First Aid Measures**

General advice

If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Eye contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact

Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is not required. If skin irritation persists, call a physician.

Inhalation

Remove to fresh air Call a physician If breathing is irregular or stopped, administer artificial respiration Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation Immediate medical attention is not required Move to fresh air in case of accidental inhalation of vapors If symptoms persist, call a physician

Ingestion

Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider

Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms

No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.
Hazardous combustion products	No information available.

Explosion data

Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal precautions	Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
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Environmental precautions

Environmental precautions	Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information.
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Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material. Dam up.

7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on safe handling	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. Store at 4 °C.
Incompatible materials	None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Guidelines	.
Other Information	Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962



(11th Cir., 1992).

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrogen Peroxide 7722-84-1	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m ³ (vacated) TWA: 1 ppm (vacated) TWA: 1.4 mg/m ³	IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m ³

NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Controls
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.
Skin and Body Protection Wear protective gloves and protective clothing.
Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State liquid
Appearance No information available
Odor No information available

<u>Property</u>	<u>Values</u>
pH	No information available
Melting point/freezing point	No information available
Boiling point	No information available
Flash point	No information available
Liquid Density	No information available
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

10. STABILITY AND REACTIVITY

Reactivity Not applicable
Chemical stability Stable under recommended storage conditions.
Possibility of Hazardous Reactions None under normal processing.
Hazardous polymerization No information available.



Conditions to avoid Extremes of temperature and direct sunlight.
 Incompatible materials Strong oxidizing agents.
 Hazardous Decomposition Products None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation No data available.
 Eye contact No data available.
 Skin Contact No data available.
 Ingestion No data available.

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg (Rat)	-	-
Hydrogen Peroxide 7722-84-1	= 1518 mg/kg (Rat)	= 9200 mg/kg (Rabbit)	= 2000 mg/m ³ (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Avoid repeated exposure.
 Target Organ Effects Eyes, Respiratory system, Skin.
 Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Hydrogen Peroxide 7722-84-1	A3	Group 3	-	-

ACGIH (American Conference of Governmental Industrial Hygienists) A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer) Not classifiable as a human carcinogen

Numerical measures of toxicity - Product Information

Unknown acute toxicity No information available
 The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	18975 mg/kg
ATEmix (dermal)	25000 mg/kg
ATEmix (inhalation-dust/mist)	0.6 mg/l
ATEmix (inhalation-vapor)	25 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity Toxic to aquatic life with long lasting effects

Chemical name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Hydrogen Peroxide 7722-84-1	2.5: 72 h Chlorella vulgaris mg/L EC50	10.0 - 32.0: 96 h Oncorhynchus mykiss mg/L LC50 static 18 - 56: 96 h Lepomis macrochirus mg/L LC50 static 16.4: 96 h Pimephales promelas mg/L LC50	-	7.7: 24 h Daphnia magna mg/L EC50 18 - 32: 48 h Daphnia magna mg/L EC50 Static

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Persistence and degradability No information available.
 Bioaccumulation No information available.
 Mobility No information available.



13. DISPOSAL CONSIDERATIONS

Disposal of wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Do not reuse container.
Other Information	Waste codes should be assigned by the user based on the application for which the product was used.
California Hazardous Waste Status	This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste Status
Hydrogen Peroxide 7722-84-1	Toxic Corrosive Ignitable Reactive

14. TRANSPORT INFORMATION

DOT	Not regulated
IMDG	Not regulated
IATA	Not regulated

15. REGULATORY INFORMATION

International Inventories

All of the components in the product are on the following Inventory lists

TSCA (United States); Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) South Korea (KECL); China (IECSC) Philippines (PICCS)

Chemical name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Water	X	X	-	X	-	-	X	X	X	X
Hydrogen Peroxide	X	X	-	X	-	X	X	X	X	X

X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No



Reactive hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Hydrogen Peroxide 7722-84-1	X	X	X

16. OTHER INFORMATION

Revision note No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet