Kit Summary

Product Code(s) AB133406
Product name ECL Substrate Kit (High Sensitivity)

Luminol/Enhancer Solution

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Boric Acid	233-139-2	10043-35-3	3	Repr. 1B (H360FD)	-
2-(N-Cyclohexylamino)ethane sulfonic Acid, CHES	-	103-47-9	3	Eye Irrit. 2 (H319)	No data available

Peroxide Chemiluminescent Detection Reagent

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Boric Acid	233-139-2	10043-35-3	3	Repr. 1B (H360FD)	-
2-(N-Cyclohexylamino)ethane sulfonic Acid, CHES	-	103-47-9	3	Eye Irrit. 2 (H319)	

GHS / CLP - GHS - Classification

Not dangerous

2.3 Other information

A safety datasheet follows for all potentially hazardous components – all other components are non-hazardous.

TRANSPORT INFORMATION

DOT Not dangerous goods

IATA Not dangerous goods

ADR Not dangerous goods

Safety Data Sheet

Issuing date No data available **Revision Date** 17-May-2019 **Version** 4

1. PRODUCT AND COMPANY IDENTIFICATION

Product name **Luminol/Enhancer Solution**

Recommended use For research use only

Supplier Address

Abcam Inc
1 Kendall Square, Ste 341
Cambridge, MA 02139-1517
USA
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

E-mail address technical@abcam.com

Emergency telephone +1 866 928 0789 (Toll free) /+1 202 464 2554

2. HAZARDS IDENTIFICATION

GHS - Classification

Ozone	Not applicable

GHS Label elements, including precautionary statements
Not dangerous

Precautionary Statements - EU (§28, 1272/2008)
P280 - Wear protective gloves/ protective clothing

Other information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Boric Acid	10043-35-3	1-5	Repr. 1B (H360FD)
2-(N-Cyclohexylamino)ethanesulfonic Acid, CHES	103-47-9	1-5	Eye Irrit. 2 (H319)

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

4. 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.

Inhalation Move to fresh air.

Ingestion Clean mouth with water. Drink plenty of water.

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties Not flammable.

Flash point not determined

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

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

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 to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Ensure adequate ventilation.

Environmental precautions Try to prevent the material from entering drains or water courses.

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

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

Technical measures/Storage conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Boric Acid 10043-35-3	STEL: 6 mg/m³ inhalable fraction TWA: 2 mg/m³ inhalable fraction		

Engineering measures
Showers
Eyewash stations
Ventilation systems

Personal protective equipment

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

Skin and body protection Long sleeved clothing. Protective gloves.

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.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	No information available.	**Odor**	No information available.
Odor Threshold	No information available	**Physical State @20°C**	No information available
pH	No information available		
Flash point	No information available	**Autoignition temperature**	No information available
Decomposition temperature	No information available	**Boiling point/boiling range**	No information available
Melting point/range	No information available		
		Flammability Limits in Air	No information available
Explosion limits	No information available		
Specific Gravity	No data available	**solubility**	No information available.
Evaporation rate	No information available	**Vapor Pressure @20°C (kPa)**	No information available
Vapor density	No data available	**VOC Content(%)**	Not applicable

10. STABILITY AND REACTIVITY

Stability Stable under recommended storage conditions.

Incompatible products None known based on information supplied.

Conditions to avoid None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

Hazardous polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Boric Acid	2660 mg/kg (Rat)	2000 mg/kg (Rabbit)	0.16 mg/L (Rat) 4 h

Chronic toxicity

Target Organ Effects None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Boric Acid		1020: 72 h Carassius auratus mg/L LC50 flow-through		115 - 153: 48 h Daphnia magna mg/L EC50

Chemical Name	log Pow
Boric Acid	-0.757

13. DISPOSAL CONSIDERATIONS

Waste disposal methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging Do not re-use empty containers.

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
Boric Acid	Toxic

14. TRANSPORT INFORMATION

DOT Not dangerous goods

IATA Not dangerous goods

ADR Not dangerous goods

15. REGULATORY INFORMATION

U.S. 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

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).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

International Regulations

WHMIS Note: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H360Fd - May damage fertility. Suspected of damaging the unborn child H319 - Causes serious eye irritation

Revision Date	17-May-2019
Revision Note	No information available.

Disclaimer
The information provided in this 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 MSDS

Safety Data Sheet

Issuing date No data available **Revision Date** 17-May-2019 **Version** 4

1. PRODUCT AND COMPANY IDENTIFICATION

Product name **Peroxide Chemiluminescent Detection Reagent**

Recommended use For research use only

Supplier Address

Abcam Inc
1 Kendall Square, Ste 341
Cambridge, MA 02139-1517
USA
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

E-mail address technical@abcam.com

Emergency telephone +1 866 928 0789 (Toll free) /+1 202 464 2554

2. HAZARDS IDENTIFICATION

GHS - Classification

Ozone	Not applicable

GHS Label elements, including precautionary statements
Not dangerous

Precautionary Statements - EU (§28, 1272/2008)
P280 - Wear protective gloves/ protective clothing

Other information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Boric Acid	10043-35-3	1-5	Repr. 1B (H360FD)
2-(N-Cyclohexylamino)ethanesulfonic Acid, CHES	103-47-9	1-5	Eye Irrit. 2 (H319)

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

4. 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.

Inhalation Move to fresh air.

Ingestion Clean mouth with water. Drink plenty of water.

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties Not flammable.

Flash point not determined

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

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

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 to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Ensure adequate ventilation.

Environmental precautions Try to prevent the material from entering drains or water courses.

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

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

Technical measures/Storage conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Boric Acid 10043-35-3	STEL: 6 mg/m³ inhalable fraction TWA: 2 mg/m³ inhalable fraction		

Engineering measures
Showers
Eyewash stations
Ventilation systems

Personal protective equipment

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

Skin and body protection Long sleeved clothing. Protective gloves.

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.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	No information available.	**Odor**	No information available.
Odor Threshold	No information available	**Physical State @20°C**	No information available
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Flash point	No information available	**Autoignition temperature**	No information available
Decomposition temperature	No information available	**Boiling point/boiling range**	No information available
Melting point/range	No information available		
		Flammability Limits in Air	No information available
Explosion limits	No information available		
Specific Gravity	No data available	**solubility**	No information available.
Evaporation rate	No information available	**Vapor Pressure @20°C (kPa)**	No information available
Vapor density	No data available	**VOC Content(%)**	Not applicable

10. STABILITY AND REACTIVITY

Stability Stable under recommended storage conditions.

Incompatible products None known based on information supplied.

Conditions to avoid None known based on information supplied.

Hazardous decomposition products None known based on information supplied.

Hazardous polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Boric Acid	2660 mg/kg (Rat)	2000 mg/kg (Rabbit)	0.16 mg/L (Rat) 4 h

Chronic toxicity

Target Organ Effects None known.

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Chemical Name	California Hazardous Waste Status
Boric Acid	Toxic

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15. REGULATORY INFORMATION

U.S. Federal Regulations

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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

Clean Water Act
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CERCLA
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U.S. State Regulations

California Proposition 65
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U.S. State Right-to-Know Regulations

International Regulations

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Revision Date	17-May-2019
Revision Note	No information available.

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End of MSDS