

SAFETY DATA SHEET

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Date of Issue	August 28, 2018
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Prepared in accordance with	JIS Z 7253:2019

1. Identification of the Substance/Mixture and of the Supplier

Product Name	LIGHT STICK / FLASH BOMBER
Recommended Use	Event lighting novelty article (consumer use)
Restrictions on Use	Do not use for any purpose other than the above.
Company Name	RIVER ROOTS LTD.
Address	4th Floor, SO HAKATA Building, 2-15 Kamigofuku-machi, Hakata-ku, Fukuoka City, Fukuoka Prefecture, Japan
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2. Hazards Identification

GHS Classification

Physical Hazards		
Flammable Liquids	Not classified	Flash point of contained liquid 120 °C or above
Oxidising Liquids	Not classified	
Organic Peroxides	Not classified	No qualifying component
Health Hazards		
Acute Toxicity (Oral)	Not classified	
Acute Toxicity (Dermal)	Not classified	
Acute Toxicity (Inhalation)	Not classified	
Skin Corrosion/Irritation	Category 2	Whole-article basis, additivity applied
Serious Eye Damage/Eye Irritation	Category 2A	Whole-article basis, additivity applied
Respiratory Sensitisation	Not classifiable	Insufficient data
Skin Sensitisation	Not classifiable	Insufficient data
Germ Cell Mutagenicity	Not classifiable	Insufficient data
Carcinogenicity	Category 2	See basis below
Reproductive Toxicity	Not classifiable	Insufficient data
STOT - Single Exposure	Category 3 (respiratory tract irritation; narcotic effects)	
STOT - Repeated Exposure	Not classifiable	Insufficient data
Aspiration Hazard	Not classifiable	
Environmental Hazards		

Hazardous to Aquatic Environment (Acute)	Category 3	Additivity formula applied
Hazardous to Aquatic Environment (Chronic)	Not classifiable	Insufficient data
Hazardous to the Ozone Layer	Not classifiable	

Basis for the carcinogenicity classification: the product contains hydrogen peroxide (GHS Carcinogenicity Category 2) at a concentration below 1%. This is below the JIS Z 7252:2019 concentration limit of 1.0%; however, the UN GHS cut-off value of 0.1% has been applied and the mixture has been classified conservatively as Category 2 on the assumption that the content may be 0.1% or above.

Label Elements

Pictograms	
Signal Word	Warning
Hazard Statements	H315 Causes skin irritation
	H319 Causes serious eye irritation
	H335 May cause respiratory irritation
	H336 May cause drowsiness or dizziness
	H351 Suspected of causing cancer
	H402 Harmful to aquatic life

Precautionary Statements

Prevention	Obtain special instructions before use.
	Do not handle until all safety precautions have been read and understood.
	Wash hands thoroughly after handling.
	Avoid release to the environment.
	Wear protective gloves, protective clothing and eye/face protection.
	Avoid breathing mist or vapours.
	Use only outdoors or in a well-ventilated area.
Response	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
	If eye irritation persists: Get medical advice/attention.
	IF ON SKIN: Wash with plenty of water and soap.
	If skin irritation occurs: Get medical advice/attention.
	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	Call a doctor if you feel unwell.
	IF exposed or concerned: Get medical advice/attention.
	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a doctor if you feel unwell.
Storage	Store locked up. Store in a cool, dark, well-ventilated place away from direct sunlight. Keep tightly closed.
Disposal	Dispose of contents/container in accordance with applicable regulations.

3. Composition / Information on Ingredients

Substance / Mixture	Mixture
Basis of Composition Data	Whole article (tube resin + glass ampoule + contained liquid)

Component Name	CAS No.	MITI No.	Conc. (wt%)	Remarks
Polyethylene	9002-88-4	-	50 - 55	Tube material
Glass	-	-	10 - 15	Ampoule material
Butyl Benzoate	136-60-7	(3)-1356	15 - 20	Contained liquid
Dimethyl Phthalate	131-11-3	(3)-1301	5 - 15	Contained liquid
Dipropylene Glycol Dimethyl Ether	111109-77-4	(7)-1321	1 - 5	Contained liquid
Oxalic acid ester	30431-54-0	(3)-4136	1 - 5	Contained liquid
Hydrogen Peroxide	7722-84-1	(1)-419	< 1	Contained liquid
Fluorescent Dye	-	-	< 0.1	Contained liquid

MITI No. = notification number under the Chemical Substances Control Law (Japan).

The oxalic acid ester is CAS 30431-54-0, listed as Bis(2,4,5-trichloro-6-carbopentoxypheyl) oxalate / Bis[3,4,6-trichloro-2-(pentyloxycarbonyl)phenyl] oxalate (EC No. 250-195-3), commonly abbreviated CPPO. It is a diester of oxalic acid, not a peroxide.

4. First-Aid Measures

Inhalation	Move to fresh air and rest in a position comfortable for breathing.
	Call a doctor if you feel unwell.
Skin Contact	Wash with plenty of water and soap.
	If skin irritation occurs, get medical advice/attention.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
	If eye irritation persists: Get medical advice/attention.
Ingestion	Rinse mouth. Do NOT induce vomiting.
	Call a doctor if you feel unwell.
Most Important Symptoms	Serious eye irritation, skin irritation, respiratory tract irritation, drowsiness, dizziness.
Protection of First-Aiders	Wear protective gloves and eye protection.

5. Fire-Fighting Measures

Suitable Extinguishing Media	Dry chemical powder, carbon dioxide, or a large quantity of foam.
Unsuitable Extinguishing Media	None known.
Specific Hazards	Combustion may generate carbon monoxide, carbon dioxide and hydrogen chloride.
Special Procedures	Fight fire from upwind using methods appropriate to surrounding conditions.
	Evacuate non-essential personnel to a safe location.
Protection of Fire-Fighters	Wear appropriate protective equipment during fire-fighting operations.

6. Accidental Release Measures

Personal Precautions	Always wear protective equipment and approach the spill area from
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	upwind.
	Evacuate persons downwind of the spill area.
Environmental Precautions	Prevent concentrated waste liquid from entering rivers, drains or sewers.
Containment and Cleanup	Keep away from open flame. Absorb the spilled liquid with rags, sand or earth, collect in an empty container, and wash the area with plenty of water.
Prevention of Secondary Hazards	Dispose of collected material in accordance with applicable regulations.

7. Handling and Storage

Technical Measures	Use enclosed systems or local exhaust ventilation to prevent direct exposure.
Safe Handling	Handle in a well-ventilated area and wear appropriate protective equipment.
	Avoid contact with skin, eyes and clothing.
	Wash hands thoroughly after handling.
	Do not cut or break the product.
Storage Conditions	Store in a cool, dark place away from direct sunlight; keep tightly sealed.
	Avoid high temperature, low temperature and humid conditions.
	Keep away from heat and ignition sources.
Incompatible Materials	Strong oxidising agents, strong alkaline substances.

8. Exposure Controls / Personal Protection

Control Concentration (Japan)	Not established
ACGIH TLV-TWA	Dimethyl Phthalate: 5 mg/m ³
	Hydrogen Peroxide: 1 ppm
Engineering Controls	Provide enclosed systems or local exhaust ventilation.
	Provide eyewash stations and safety showers near the handling area.
Respiratory Protection	Wear suitable respiratory protection where necessary.
Hand Protection	Wear suitable protective gloves.
Eye/Face Protection	Wear safety goggles or a face shield.
Skin and Body Protection	Wear suitable protective clothing.
Hygiene Measures	Wash hands after handling. Do not eat, drink or smoke while handling.

9. Physical and Chemical Properties

Physical State	Solid (sealed plastic cylindrical article containing a liquid)
Colour	Varies by product
Odour	Odourless
Melting Point / Freezing Point	No data available
Boiling Point / Range	No data available
Flammability	No data available
Explosive Limits (Lower / Upper)	No data available
Flash Point	120 °C or above (Seta closed cup) - applies to the contained liquid

	Third-party measured values: oxidiser solution 126.0-127.0 °C; fluorescer solution 153.5-154.0 °C; mixed solution 145.5-146.0 °C. Stated conservatively as 120 °C or above.
	Reference: Cleveland open cup, mixed solution: 160 °C.
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
pH	No data available
Kinematic Viscosity	No data available
Solubility	Slightly soluble in water
Partition Coefficient (n-octanol/water)	No data available
Vapour Pressure	No data available
Density / Relative Density	No data (whole article) / 1.0 - 1.1 (contained liquid)
Relative Vapour Density	No data available
Particle Characteristics	Not applicable (formed article)

10. Stability and Reactivity

Reactivity	Stable under normal handling conditions.
Chemical Stability	Considered stable under regulated storage and handling conditions.
Possibility of Hazardous Reactions	No specific reactivity reported.
Conditions to Avoid	High temperature, humidity and light (may cause deterioration).
Incompatible Materials	Strong oxidising agents, strong alkaline substances.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide, hydrogen chloride.

11. Toxicological Information

Acute Toxicity (Oral)	Not classified	As a mixture
Acute Toxicity (Dermal)	Not classified	As a mixture
Acute Toxicity (Inhalation)	Not classified	As a mixture
Skin Corrosion/Irritation	Category 2	As a mixture
Serious Eye Damage/Eye Irritation	Category 2A	As a mixture
Respiratory Sensitisation	Not classifiable	No data available
Skin Sensitisation	Not classifiable	No data available
Germ Cell Mutagenicity	Not classifiable	No data available
Carcinogenicity	Category 2	See basis below
Reproductive Toxicity	Not classifiable	No data available
STOT - Single Exposure	Category 3	Respiratory irritation; narcotic effects
STOT - Repeated Exposure	Not classifiable	No data available
Aspiration Hazard	Not classifiable	No data available

Basis for carcinogenicity classification: the product contains hydrogen peroxide, classified as GHS Carcinogenicity Category 2, at a concentration below 1%. The UN GHS cut-off value of 0.1% has been applied and the mixture classified conservatively as Category 2 on the assumption that the content may be 0.1% or above.

12. Ecological Information

Ecotoxicity	Hazardous to the aquatic environment, acute Category 3. Classified by
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	applying the additivity formula to component classifications.
Persistence and Degradability	Oxalic acid ester (CAS 30431-54-0): not readily degradable (assessment under the Japanese Chemical Substances Control Law). No data for other components.
Bioaccumulative Potential	Oxalic acid ester (CAS 30431-54-0): low bioaccumulation potential (assessment under the Japanese Chemical Substances Control Law). No data for other components.
Mobility in Soil	No data available
Hazard to the Ozone Layer	Does not contain ozone-depleting substances.

13. Disposal Considerations

Waste Residues	Dispose of the product as a plastic article without dismantling it.
	Business users: entrust disposal to a licensed industrial waste contractor under contract.
	Consumers: follow local regulations.
Contaminated Packaging	The product is a single formed article in which the container and contents are integral; dispose of it without dismantling.

14. Transport Information

International Transport Regulations

UN Number	None
UN Proper Shipping Name	Not applicable
Transport Hazard Class	None
Packing Group	Not applicable
Marine Pollutant	No
IMDG Code (Sea)	NOT RESTRICTED - not classified as dangerous goods
IATA DGR / ICAO TI (Air)	NOT RESTRICTED - not classified as dangerous goods
ADR / RID (Road / Rail)	NOT RESTRICTED
MARPOL Annex II / IBC Code	Not applicable - the product is shipped as packaged goods, not in bulk.

Basis for Non-Classification

Class 3 (Flammable Liquids)	The flash point of the contained liquid is 120 °C or above (Seta closed cup), substantially above the 60 °C threshold for Class 3.
	Third-party testing recorded a lowest value of 126.0 °C among three samples (Hitachi Chemical Techno Service Co., Ltd., Report No. YMTR20091, issued 17 July 2018).
Class 5.1 / 5.2 (Oxidisers / Organic Peroxides)	Hydrogen peroxide content is below 1%, far below the 8% threshold for UN 2014 / UN 2984. No organic peroxide component is present.
Physical Form	The liquid is fully sealed within a plastic formed article and does not leak under normal conditions of transport.

Domestic (Japan) Regulations

Domestic Transport Regulations (Japan)	Not applicable. The product is a sealed formed article and is not subject to carriage regulations.
Special Precautions	Avoid damage to the container. Avoid exposure to high temperature.

15. Regulatory Information

Applicable Regulations by Component (Japan)

Regulation	Component	Item
Industrial Safety and Health Act	Dimethyl Phthalate	Subject to notification of name (Art. 57-2; Enforcement Order Art. 18-2(2); Enforcement Regulations Art. 34-2 and Appended Table 2) and to labelling of name (Art. 57; Enforcement Order Art. 18(2); Enforcement Regulations Art. 30 and Appended Table 2)
	Hydrogen Peroxide	Subject to notification of name (Art. 57-2; Enforcement Order Art. 18-2(2); Enforcement Regulations Art. 34-2 and Appended Table 2) and to labelling of name (Art. 57; Enforcement Order Art. 18(2); Enforcement Regulations Art. 30 and Appended Table 2)
Fire Service Law	Butyl Benzoate	Class 4, Third Petroleum Class, Hazard Level III, water-insoluble
	Dimethyl Phthalate	Class 4, Third Petroleum Class, Hazard Level III, water-insoluble
	Dipropylene Glycol Dimethyl Ether	Class 4, Second Petroleum Class, Hazard Level III, water-insoluble
Chemical Substances Control Law	Butyl Benzoate	Existing Chemical Substance, MITI No. (3)-1356
	Dimethyl Phthalate	Existing Chemical Substance, MITI No. (3)-1301
	Oxalic acid ester (CAS 30431-54-0)	Notified substance, MITI No. (3)-4136 (published 16 September 1993)
	Dipropylene Glycol Dimethyl Ether	Existing Chemical Substance, MITI No. (7)-1321
	Hydrogen Peroxide	Existing Chemical Substance, MITI No. (1)-419
		Note: the Priority Assessment Chemical Substance designation for hydrogen peroxide was cancelled on 31 March 2022.
Marine Pollution Prevention Act	Dimethyl Phthalate	Noxious Liquid Substance, Category Y (Enforcement Order Appended Table 1)
	Hydrogen Peroxide	Noxious Liquid Substance, Category Y (Enforcement Order Appended Table 1)

Applicable Regulations for the Mixture (Japan)

Industrial Safety and Health Act	Subject to notification of name (Art. 57-2; Enforcement Order Art. 18-2(2); Enforcement Regulations Art. 34-2 and Appended Table 2):
	Dimethyl Phthalate ($\geq 1\%$); Hydrogen Peroxide ($\geq 0.1\%$)
	Subject to labelling of name (Art. 57; Enforcement Order Art. 18(2); Enforcement Regulations Art. 30 and Appended Table 2):
	Dimethyl Phthalate ($\geq 1\%$). Hydrogen peroxide is not applicable (threshold 1%).
	Cut-off values are prescribed by Ministry of Health, Labour and Welfare Notification No. 304 of 2023 under Enforcement Order Art. 18(3) and Art. 18-2(3).
Fire Service Law	Class 4, Third Petroleum Class, Hazard Level III, water-insoluble (contained liquid).
	Although one component is individually assigned to the Second Petroleum Class, the flash point of the contained liquid as a mixture is 120 °C or above (Seta closed cup), which places the mixture in the Third

	Petroleum Class (70-200 °C).
	Third-party hazardous-materials testing also determined the mixed solution to fall under Class 4, Third Petroleum Class (Hitachi Chemical Techno Service Co., Ltd., Report No. YMTR20122, issued 20 July 2018).
PRTR Act	Not applicable. No component is listed as a Class I or Class II Designated Chemical Substance.
Marine Pollution Prevention Act	Not applicable to the mixture. The Noxious Liquid Substance classification applies to bulk liquid carriage only and does not apply to this product as packaged goods.

Other Jurisdictions

General	The importer is responsible for verifying compliance with the chemical regulations of the country of import.
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16. Other Information

Contact for Further Information	RIVER ROOTS LTD.
Address	4th Floor, SO HAKATA Building, 2-15 Kamigofuku-machi, Hakata-ku, Fukuoka City, Fukuoka Prefecture, Japan
Telephone	+81-92-409-4112
Fax	+81-92-510-0330
E-mail	info@riverroots.jp
References	Test report, Flash point measurement of chemiluminescent liquid, No. YMTR20091 (Hitachi Chemical Techno Service Co., Ltd., 17 July 2018)
	Test report, Flash point measurement / hazardous materials determination, No. YMTR20122 (Hitachi Chemical Techno Service Co., Ltd., 20 July 2018)
	GHS Mixture Classification System (METI, Japan)
	NITE-CHRIP / J-CHECK (National Institute of Technology and Evaluation, Japan)
	GHS Model SDS Information (Ministry of Health, Labour and Welfare, Japan)
Revision History	Version 1: August 28, 2018 (initial issue)
	Version 2: August 20, 2026 (composition restated on whole-article basis; Carcinogenicity Category 2 added; component name corrected; Sections 14 and 15 expanded; regulatory information updated)

Disclaimer

This Safety Data Sheet has been prepared in good faith on the basis of information available to us. No warranty is given regarding the accuracy of the data or the evaluation of hazards and risks. The precautions stated are intended for normal use; special handling conditions may require additional safety measures and careful attention.