

SAFETY DATA SHEET

1. Product and Company Identification

Red Emergency Flare - No Perchlorate (NPC) Formulation

Identification:

The NPC flare will have the following symbol on it:

Synonyms: Emergency Road Flare
Railway Flare
NSN#: 1370-01-009-2593



Identified Use: Emergency signal

Use Advised Against: Do not use indoors or inside a vehicle

Manufacturers Information Orion Safety Products
28320 St. Michaels Rd
Easton, MD 21601
800-637-7807
410-822-0318

EMERGENCY

CHEMTREC
1-800-424-9300

2. Hazards Identification

GHS Classifications

Skin Irritation	Category 2	H315
Eye Irritation	Category 2A	H319
STOT - Single Exposure	Category 3	H335

GHS Label Elements

Pictograms



Signal Word

Warning

Hazard Statements

H315 /319 Causes skin and serious eye irritation
H335 May cause respiratory irritation

Precautionary Statements

P103 Keep out of reach of children
P261 Avoid breathing dust/smoke.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective eye protection
P370 In case of fire: use water deluge
P501 Dispose of contents / container in accordance with local and national regulations.

P301/315 IF SWALLOWED: Get immediate medical advice /attention.
P302/352 IF ON SKIN: Wash with plenty of soap and water.
P304/340/342 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor / physician.
P305/338/351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333/313 If skin irritation or rash occurs, get medical advice / attention.

Hazards Not Otherwise Classified (HNOC): produces hot flame

3. Composition / Information on Ingredients

Component	CAS #	EINCS #	%age
Strontium Nitrate	10042-76-9	233-131-9	<75%
Sulfur	7704-34-9	231-722-6	<25%
Potassium Nitrate	7757-79-1	231-818-8	<25%
Paraffinic Oil	64742-54-7	232-384-2	<10%
Potassium Chlorate	3811-04-9	231-100-4	<5%
Waxy sawdust	mixture	none	<5%
Polyvinyl Chloride	9002-86-2	200-831-0	<5%
Shellac	mixture	none	<1%
Charcoal	1333-86-4	231-153-3	<1%

Note: Due to Confidential Business Information i. e "Trade Secrets", the exact percentage of each ingredient has not been disclosed. CBI information will be shared with appropriate authorities if circumstances warrant.

4. First Aid Measures

Description of first aid measures

Inhalation	If contents are inhaled, remove to fresh air. Watch for signs of allergic reaction. If other symptoms develop, get medical aid immediately.
Skin	If contents are contacted, wash with area with soap and water for 15 minutes. Remove contaminated clothing and wash before reuse. Get medical aid immediately if burned or irritation occurs.
Eyes	If contents get into eye, flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses if easily possible. Do not use boric acid to rinse with; sulfur is an acid irritant. Get medical aid immediately.
Ingestion	Get medical aid immediately.

Most important symptoms and effects both acute and delayed See section 2 labeling and section 11

Indication of any immediate medical attention and special treatment needed

Burning flare can cause severe burns if in contact with body.
For burns to skin, cool with water and bandage appropriately.
Seek medical attention. If eye is burned, cover eye and get medical aid immediately

5. Firefighting Measures

Extinguishing Media	Water deluge	Unsuitable Extinguishing Media	Foam and dry chemical extinguishers and suffocation are ineffective.
Protective Equipment and Precautions for Firefighters	Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Prevent further propagation of fire by spraying unburnt nearby product with water. Combat fire from a sheltered position.		
Specific Hazards Arising from the Chemical	Use copious amounts of water to extinguish fire comprised of flares. Flares contain oxidizers and will continue to burn unless a significant amount of water is used. Do not breathe smoke.		
Further information	No data available		

6. Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures

Do not breathe contents and avoid contact with skin and eyes. Wear flame retardant clothing with long sleeves, dust mask, rubber or nitrile gloves, safety goggles, safety shoes. Avoid friction on the released product. Keep away from ignition sources.

Environmental Precautions

Prevent dispersion of contents on soil and in water. Prevent contents from spreading or entering into drains, ditches, groundwater or rivers by using appropriate barriers.

Methods for Containment and Clean-up

Use caution when cleaning up spilled product contents. Remove heat, flames, sparks and other sources of ignition. Use non-sparking tools and equipment. Prevent buildup of electrostatic charges by grounding. Clean spills in a manner that does not disperse dust into the air. Do not absorb in sawdust or other combustible absorbents. Pick up spill for recovery or disposal and place in an approved container. Wash away remainder with plenty of water. Collect wash water for approved disposal.

7. Handling and Storage

Precautions for Safe Handling

Hold and point flare away from body when igniting. Exercise caution when using this product since molten flecks may be emitted. Produces hot flame. Burning flare can cause severe burns if in contact with body. Avoid contact with clothing and other combustible materials. Wear eye protection during use. Follow instructions on package. Use outdoors only! Do not ignite or burn product inside a vehicle or building. Avoid inhalation of smoke. Do not dismantle. Do not allow contents to touch eyes, skin or clothing. Do not ingest contents as they may be harmful if swallowed. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with heat, sparks, and flame.

Conditions for Safe Storage, Including Any Incompatibilities

Store away from direct sunlight, heat and incompatible materials. See section 10. Store away from food and beverages. Store away from flammable materials, sources of heat, flame and sparks. Store at ambient temperature. Do not store partially burned flares in a vehicle, warehouse, or any other building. Plastic bags are provided for moisture protection. Keep partially used bags sealed at all times.

8. Exposure Controls / Personal Protection

Control parameters

Exposure Limits	OSHA PEL	ACGIH TLV
Strontium Nitrate	Not Established	Not Established
Sulfur	Not Established	Not Established
Potassium Nitrate	Nuisance dust 15 mg/m ³ .	Nuisance dust 15 mg/m ³ .
Paraffinic Oil	5 mg/m ³	TWA 5 mg/m ³
Potassium Chlorate	No Airborne Exposure Limits established	No Airborne Exposure Limits established
Waxy sawdust	Not Established	Not Established
Polyvinyl Chloride	No known hazardous components above regulatory thresholds in this product.	No known hazardous components above regulatory thresholds in this product.
Shellac	Not Established	Not Established
Charcoal	Nuisance dust 15 mg/m ³ .	Nuisance dust 15 mg/m ³ .

Exposure controls

Engineering Controls

Use product outdoors only! When cleaning up contents, use local and/or general exhaust.

Personal Protective Equipment

Eye / Face Protection Safety glasses or goggles

Skin Protection None under normal conditions when using product unless prolonged handling is anticipated. Impervious protective clothing, including gloves, boots, and a lab coat, apron or coveralls, as appropriate, when cleaning up spilled product. Wash hands and face before eating, drinking or using tobacco products.

Respiratory Protection None under normal conditions when using product. A particulate respirator (NIOSH t N95 or better filters) may be worn during the cleanup of spilled materials.

General Hygiene Use product outdoors away from combustible products. For cleanup of spilled materials, emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of hazardous materials.

9. Physical and Chemical Properties

Appearance (color, physical form, shape): Yellow to grey powder	Melting Point: Not available	Solubility: Not available
pH: Not available	Freezing Point: Not applicable	Evaporation Rate: Not applicable
Boiling Point / Range: Not applicable	Specific Gravity: Not applicable	Vapor Density: Not applicable
Vapor Pressure: Not applicable	Odor Threshold: No data available	Flash Point: Not available
Odor: No data available	Flammability Limits: No data available	Relative Density: No data available
Flammability: No data available	Viscosity: No data available	
Partition Coefficient: No data available		
Auto Ignition Temperature: 360°F		Decomposition Temperature: No data available

10. Stability and Reactivity

Chemical Stability Stable	Reactivity: No information available	Possibility of Hazardous Reactions Hazardous polymerization will not occur
Conditions to Avoid Combustible materials, heat, flames, sparks and other sources of ignition. Moisture.	Incompatible Materials Strong acids, strong fuels, ammonia salts, and strong bases. Strong oxidizers; chlorate salts.	Hazardous Decomposition Products Carbon monoxide, carbon dioxide, sulfur oxides, and nitrogen oxides.

11. Toxicology Information

Ingredient acute toxicity information

Ingredient	Oral LD50	skin LD50	LC50
Strontium Nitrate	Rat: 2750 mg/kg	No information found	No information found
Sulfur	Rat:>2000 mg/kg	Rat:>2000 mg/kg	Rat: 79.23 mg/L 4hr
Potassium Nitrate	Rat: 3750 mg/kg	No information found	No information found
Paraffinic Oil	Rat: >2000 mg/kg	Rat: >2000 mg/kg	No information found
Potassium Chlorate	Rat: 1870 mg/kg	Rabbit: > 2000 mg/kg	No information found
Waxy sawdust	Rat: > 5000 mg/kg	not stated	not stated
Polyvinyl Chloride	Rat: > 5000 mg/kg	no known hazardous components above regulatory thresholds in this product.	no known hazardous components above regulatory thresholds in this product.
Shellac	Rat: 10000 mg/kg	No information found	No information found
Charcoal	Rat: 15400 mg/kg	Rabbit: 3 g/kg	No information found

Product toxicological information

Acute Toxicity	Not classified – <i>Acute Toxicity Estimate yields oral LD₅₀ over 5000 mg/kg bw</i>
Skin Irritation / Corrosion	Category 2 – <i>over 10% of ingredients classified as a Category 2</i>
Serious Eye Damage / Irritation	Category 2a – <i>over 10% of ingredients classified as a Category 2a</i>
Respiratory / Skin Sensitization	Not classified (Based on available data, the classification criteria are not met)
Germ Cell Mutagen	Not classified (Based on available data, the classification criteria are not met)
Carcinogen	Not classified (Based on available data, the classification criteria are not met)
Reproductive Toxicity	Not classified (Based on available data, the classification criteria are not met)
STOT – single exposure	Category 3 – <i>respiratory over 10% of ingredients classified as a Category 3 respiratory STOT hazard</i>
STOT – repeated exposure	Not classified (Based on available data, the classification criteria are not met)
Aspiration Hazard	Not classified (Based on available data, the classification criteria are not met)

Likely routes of exposure

Skin, ingestion, inhalation

Symptoms related to the physical, chemical and toxicological characteristics

Contents irritating to eyes due to chemical and physical properties of the mixture. Ingestion of contents may cause gastrointestinal irritation with nausea, vomiting and diarrhea. Individuals with known allergies to sulfide drugs may also have allergic reactions to elemental sulfur.

Delayed and immediate effects and chronic effects from short and long term exposure

Inhalation of contents or smoke from burning flare will cause irritation to the lungs and mucus membrane. Prolonged or repeated skin contact with contents may cause dermatitis.

Interactive effects

No information found

12. Ecological Information

Ingredient toxicity / persistence / degradability / bioaccumulation / mobility in soil and water

Aquatic Toxicity	<u>Strontium Nitrate:</u> <i>Acute toxicity - Fishes, Carassius auratus, LC100, 9,615 mg/l; Chronic toxicity - Fishes, Gasterosteus aculeatus, LC100, 2,912 mg/l</i> <u>Sulfur:</u> <i>Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - > 180 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - > 5,000 mg/l - 48 h</i> <u>Potassium Chlorate:</u> <i>fish: LC50 oncorhynchus mykiss (rainbow trout) 1750 mg/l - 96 hr, EC50 daphnia magna (water flea) 1093 mg/l 24 hr</i> <u>Paraffinic Oil:</u> <i>Oil Mist, Mineral Lepomis macrochirus (LC50) 96 hour(s) >100 mg/l Oncorhynchus mykiss (LC50) 96 hour(s) >100 mg/l</i> <u>Potassium Nitrate:</u> <i>fish: Guppy (Poecilia Reticulata) LC50 180 mg/L (96 h); zooplankton: Daphnia magna LC50 490mg/l - 48hr</i>
Persistence / Degradability	<u>Potassium Nitrate:</u> Soluble in water Persistence is unlikely based on information available.
Bioaccumulation / Accumulation	No information found
Mobility in Environmental Media	<u>Strontium Nitrate:</u> <i>Water:: considerable solubility and mobility; Soil/sediments non-significant adsorption</i> <u>Potassium Nitrate:</u> <i>Will likely be mobile in the environment due to its water solubility.</i>
Other adverse effects	No information found

13. Disposal Considerations

Disposal methods

Flares should be allowed to burn to completion. Partially burned or unburned flares, spilled contents, and ash from burned flares should be disposed of in accordance with federal, state, and local requirements. Consult factory for any additional disposal concerns.

14. Transportation Information

Description	ID Number	shipping name	hazard class	packing group	EX Number	Reportable Quantities	Shipping method
Domestic Shipments							
No inner packaging	*NA1325	Fusee	4.1	II	EX1992090001	none	Ground only
Retail Packaging	**UN3178	Flammable solid, inorganic (highway flares or fusees)	4.1	II	EX2002110114	none	Ground only
International / Air							
Inner Packaging (bag)	UN0373	Signal devices, hand	1.4S		EX1992090001	none	Air / ground

* As noted on EX1992090001

** According to 49CFR, Exception for Class 4, flares properly packaged and classed as UN3178, Flammable solid, inorganic (highway flares or fusees), may be renamed "Consumer Commodity" and reclassified as ORM-D and offered for transportation and transported in accordance with the applicable provisions of that subchapter.

Marine Pollutant: no

Special precautions for user: No information available

15. Regulatory Information

US Regulations	TSCA	CERCLA	CWA	CAA	SARA 313	SARA 302	Acute	Chronic	Fire	Reactivity	Pressure
Strontium Nitrate	yes	no	no	no	no	no	yes	no	no	yes	no
Sulfur	yes	no	no	no	no	no	yes	no	yes	no	no
Potassium Nitrate	yes	no	no	no	yes	no	no	no	no	yes	no
Paraffinic Oil	yes	no	no	no	no	no	no	no	no	no	no
Potassium Chlorate	yes	no	no	no	no	no	yes	no	no	yes	no
Waxy sawdust	yes	no	no	no	no	no	no	no	no	no	no
Polyvinyl Chloride	yes	no	no	no	no	no	yes	no	no	no	no
Shellac Mixture	yes	no	no	no	yes	no	unknown	unknown	unknown	unknown	Unknown
Charcoal	yes	no	no	no	no	no	no	no	no	no	No
US States	Prop 65	NJ	PA	Canada	WHMIS		DSL	Europe	Wgk		
Strontium Nitrate	no	1743	no		C Oxidizing materials D1B Toxic materials D2B Toxic materials		yes		2		
Sulfur	no	1757	yes		B4 Flammable solid D2B Toxic materials		yes		1 / nwg		
Potassium Nitrate	no	1574	yes		C Oxidizing materials		yes		1		
Paraffinic Oil	no	1437	no		No results		yes		not listed		
Potassium Chlorate	yes	1560	yes		C Oxidizing materials D1B Toxic materials		yes		2		
Waxy sawdust	yes	No	no		No results		yes		not listed		
Polyvinyl Chloride	no	3622	no		No results		yes		not listed		
Shellac Mixture	no	No	no		No results		unknown		not listed		
Charcoal	yes	Yes	yes		D2A Very toxic materials D2B Toxic materials		yes		Nwg		

16. Other Information

Revision Information: May 2015

NFPA Rating		HMIS Rating	
Flammability	1	Flammability	1
Health	2	Health	2
Reactivity	1	Physical Hazard	1

Key / Legend:

HMIS: hazardous material identification system
 NFPA: national fire protection association
 CAS: Chemical Abstracts Service number
 EINECS: European inventory of existing chemical substances
 OSHA PEL: occupational safety and health administration permissible exposure limit
 NIOSH TLV: national institute of occupational safety and health Threshold Limit Value
 TSCA: toxic substance control act - US

CERCLA: comprehensive environmental response, compensation and liability act - US
 CWA: clean water act - US
 CAA: clean air act - US
 SARA: superfund amendments and reauthorization act - US
 PROP 65: California's Proposition 65 list
 WHMIS: workplace hazardous materials information system - Canada
 DSL: Domestic Substances List - Canada
 WGK: water hazard classes - Germany



Legal Statement

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GLOW STICK

Safety Data Sheet

According to OSHA Hazard Communication Standard 29 CFR 1910.1200

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : GLOW STICK
Product description : GLOW STICK, GLOW BRACELET, GLOW NECKLACE, GLOW CUP, GLOW WAND WITH ASST COLORS RED/GREEN/BLUE/YELLOW/PINK/ORANGE/PURPLE/WHITE/AQUA

1.2. Recommended use and restrictions on use

Main use category : Used in decoration.
Restrictions on use : No information available

1.3. Supplier

Supplier : Xiamen Long Afterglow Co.,Ltd.
Address : No.1043,Tong Ji Zhong Road,Tong An Area,Xiamen,Fujian Province,China
Phone : +86-592-3675699
FAX : +86-592-3675698
E-mail : elaine@glo-novelty.com
Web : www.glo-novelty.com

1.4. Emergency telephone number

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS-US labelling

No labelling applicable
Hazard pictograms (GHS-US) : None
Signal word (GHS-US) : None
Hazard statements (GHS-US) : Not applicable
Precautionary statements (GHS-US) : Not applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch

Technical Report No.: 64.165.18.00501.01

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3.2. Mixtures

Name	Product identifier	%
Dimethyl phthalate	(CAS-No.) 131-11-3	58.5
Butyl benzoate	(CAS-No.) 136-60-7	28.5
Water	(CAS-No.) 7732-18-5	6
Bis[2,3,5-trichloro-6-[(pentyloxy)carbonyl]phenyl] oxalate	(CAS-No.) 75203-51-9	4.7
Hydrogen peroxide	(CAS-No.) 7722-84-1	2.2
Anthracene, 9,10-bis(phenylethynyl)-	(CAS-No.) 10075-85-1	0.1

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : If you feel unwell, seek medical advice (show directions for use or safety data sheet if possible).
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing;
Give oxygen or artificial respiration if necessary;
If you feel unwell, seek medical advice.
- First-aid measures after skin contact : Wash skin with plenty of water and take off contaminated clothing;
If skin irritation or rash occurs: Get medical advice/attention;
Wash contaminated clothing before reuse
- First-aid measures after eye contact : Rinse cautiously with water for several minutes while holding the eyelids wide open;
Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
- First-aid measures after ingestion : If swallowed, rinse mouth;
Do not induce vomiting;
Give nothing or a little water to drink;
Never give anything by mouth to an unconscious person;
If you feel unwell, seek medical advice;

4.2. Most important symptoms and effects (acute and delayed)

No information available.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Use carbon dioxide, dry extinguishing media, water spray, water.
- Unsuitable extinguishing media : None

5.2. Specific hazards arising from the chemical

- Hazardous decomposition products in case of fire : Combustion produces toxic or irritating gases and fumes.

5.3. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
- Other information : Evacuate personnel to a safe area. Move containers from fire area if it can be done without personal risk. Cool tanks/drums with water spray/remove them into safety. Stay upwind. Avoid breathing vapour or dusts. Provide storage and work areas with suitable fire extinguishers. Collect contaminated firefighting water separately, it must not enter drains.

GLOW STICK

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According to OSHA Hazard Communication Standard 29 CFR 1910.1200



SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes and inhalation of vapors

6.1.2. For emergency responders

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

Emergency procedures : Stop leak if safe to do so. Evacuate personnel to a safe area; Ensure adequate ventilation, especially in confined areas; No flames, no sparks. Eliminate all sources of ignition.

6.2. Environmental precautions

Although the product is not classified as dangerous to the environment, it is advised that in the event of an accidental release the product should be prevented from reaching the sewage system or any water course, and from penetrating the ground/soil. Dispose of spilled material in accordance with the relevant local regulations. See Section 13 for disposal considerations.

6.3. Methods and material for containment and cleaning up

For containment : Isolate the spillage. Ensure adequate ventilation. Collect mechanically. Fill into labeled, suitable sealed containers for disposal in accordance with local authority regulations

Methods for cleaning up : For large amounts: Transfer product into suitable containers.
For residues: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). Dispose of absorbed material in accordance with regulations

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

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Handle in accordance with good industrial hygiene and safety practice
Ensure adequate ventilation, especially in confined areas
Observe personal protective measures listed in section 8.
Do not handle until all safety precautions have been read and understood
Avoid contact with skin, eyes or clothing
Wash contaminated clothing before reuse
Keep away from heat, sparks, flame and other sources of ignition
Avoid breathing vapors or mists
Any deposit of dust which cannot be avoided must be removed regularly.

Hygiene measures : Do not eat, drink or smoke when using this product.
Always wash hands after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.
Avoid formation of dust, inhalation and ingestion.
Avoid contact with eyes, skin and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep containers tightly closed in a dry, cool and well-ventilated place
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep locked up and out of reach of children
Keep away from food, drink and animal feeding stuffs
Always keep in containers of the same material as the original one
Store away from incompatible substances (reducing agents, nitrite salts and potassium chlorate).

GLOW STICK

Safety Data Sheet

According to OSHA Hazard Communication Standard 29 CFR 1910.1200



SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Dimethyl phthalate (131-11-3)		
ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
IDLH	US IDLH (mg/m ³)	2000 mg/m ³
NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
Butyl benzoate (136-60-7)		
Not applicable		
Bis[2,3,5-trichloro-6-[(pentyloxy)carbonyl]phenyl] oxalate (75203-51-9)		
Not applicable		
Hydrogen peroxide (7722-84-1)		
ACGIH	ACGIH TWA (ppm)	1 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	1.4 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	1 ppm
IDLH	US IDLH (ppm)	75 ppm
NIOSH	NIOSH REL (TWA) (mg/m ³)	1.4 mg/m ³
NIOSH	NIOSH REL (TWA) (ppm)	1 ppm
Water (7732-18-5)		
Not applicable		
Anthracene, 9,10-bis(phenylethynyl)- (10075-85-1)		
Not applicable		

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Remove all sources of ignition.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear appropriate chemical resistant gloves.

Eye protection:

Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin and body protection:

Wear appropriate chemical resistant clothing.

Respiratory protection:

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The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

50 mg/m³

Any air-purifying full-facepiece respirator equipped with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100 or P100.

125 mg/m³

Any supplied-air respirator operated in a continuous-flow mode.

Any powered, air-purifying respirator with a high-efficiency particulate filter.

250 mg/m³

Any air-purifying, full-facepiece respirator equipped with an N100, R100, or P100 filter.

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

2000 mg/m³

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Emergency or planned entry into unknown concentrations or IDLH conditions

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Escape

Any air-purifying, full-facepiece respirator equipped with an N100, R100, or P100 filter.

Any appropriate escape-type, self-contained breathing apparatus.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Melting point	: No data available
Boiling point	: No data available
Flash point	: >200°F (93.3°C) Closed Cup
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: The product is not classified as flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: Not explosive based on experience and structural considerations
Oxidising properties	: Not oxidizing based on experience and structural considerations

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended storage and handling conditions (see section 7, handling and storage).

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Will not polymerize.

10.4. Conditions to avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

10.5. Incompatible materials

Acids, bases, oxidizing materials.

10.6. Hazardous decomposition products

Carbon monoxide (CO), carbon dioxide (CO₂) and other toxic vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Dimethyl phthalate (131-11-3)	
LD50 oral rat	6800 mg/kg
Butyl benzoate (136-60-7)	
LD50 oral rat	735 mg/kg
Hydrogen peroxide (7722-84-1)	
LD50 oral rat	801 mg/kg
LD50 dermal rat	4060 mg/kg
LD50 dermal rabbit	2000 mg/kg
LC50 inhalation rat (mg/l)	2 g/m ³ (Exposure time: 4 h)

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

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

Dimethyl phthalate (131-11-3)	
LC50 fish	49.5 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
LC50 fish	39 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
LC50 fish	37 - 69 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
LC50 fish	121 mg/l (Exposure time: 96 h - Species: Pimephales promelas)

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Dimethyl phthalate (131-11-3)	
LC50 fish	100 - 220 mg/l (Exposure time: 96 h - Species: Leuciscus idus [static])
LC50 fish	56 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia	33 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Algae	20.6 - 45.8 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata)
EC50 Algae	28.4 - 71 mg/l (Exposure time: 72 h - Species: Pseudokirchneriella subcapitata)
EC50 Algae	142 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata)
EC50 Algae	26.1 mg/l (Exposure time: 96 h - Species: Skeletonema costatum)
EC50 Algae	204 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)

Hydrogen peroxide (7722-84-1)	
LC50 fish	16.4 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
LC50 fish	18 - 56 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
LC50 fish	10 - 32 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia	18 - 32 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 Daphnia	7.7 mg/l (Exposure time: 24 h - Species: Daphnia magna [Static])
EC50 Algae	2.5 mg/l (Exposure time: 72 h)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Dimethyl phthalate (131-11-3)	
BCF fish 1	4.7 - 57
Log Pow	2.12

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.

GWPmix comment : No known effects from this product.

Dimethyl phthalate (131-11-3)	
1990 Hazardous Air Pollutant (Clean Air Act)	Yes

SECTION 13: Disposal considerations

13.1. Disposal methods

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

Product/Packaging disposal recommendations : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not applicable

Transportation of Dangerous Goods

Not applicable

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Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Dimethyl phthalate (131-11-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	5000 lb
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Butyl benzoate (136-60-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Hydrogen peroxide (7722-84-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Section 302 EPCRA Reportable Quantity (RQ)	1000 lb concentration >52%
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SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb (concentration >52%)
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Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Anthracene, 9,10-bis(phenylethynyl)- (10075-85-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Dimethyl phthalate (131-11-3)

Listed on the Canadian DSL (Domestic Substances List)

Butyl benzoate (136-60-7)

Listed on the Canadian DSL (Domestic Substances List)

Hydrogen peroxide (7722-84-1)

Listed on the Canadian DSL (Domestic Substances List)

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

Anthracene, 9,10-bis(phenylethynyl)- (10075-85-1)

Listed on the Canadian NDSL (Non-Domestic Substances List)

EU-Regulations

Dimethyl phthalate (131-11-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Butyl benzoate (136-60-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Bis[2,3,5-trichloro-6-[(pentylloxy)carbonyl]phenyl] oxalate (75203-51-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Hydrogen peroxide (7722-84-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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Water (7732-18-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Anthracene, 9,10-bis(phenylethynyl)- (10075-85-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Dimethyl phthalate (131-11-3)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on Turkish inventory of chemical
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Butyl benzoate (136-60-7)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on Turkish inventory of chemical
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Bis[2,3,5-trichloro-6-[(pentyloxy)carbonyl]phenyl] oxalate (75203-51-9)

Listed on the Korean ECL (Existing Chemicals List)

Hydrogen peroxide (7722-84-1)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Poisonous and Deleterious Substances Control Law
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on Turkish inventory of chemical
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Water (7732-18-5)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Anthracene, 9,10-bis(phenylethynyl)- (10075-85-1)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Korean ECL (Existing Chemicals List)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

No additional information available

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SECTION 16: Other information

Issue date : 02-Feb-2018
Revision date : 02-Feb-2018

Full text of H-phrases
None

Key or legend to abbreviations and acronyms used in the safety data sheet

ADR : European Agreement Concerning the International Carriage of Dangerous Goods by Road
IMDG : International Maritime Dangerous Goods
IATA : International Air Transport Association
ADN : European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterway
RID : Regulations Concerning the International Carriage of Dangerous Goods by Rail
PBT : Persistent, Bioaccumulative and Toxic
vPvB : Very Persistent and Very Bioaccumulative
DNEL : Derived No Effect Level
PNEC : Predicted No Effect Concentration
LC50 : Lethal Concentration 50
LD50 : Lethal Dose 50
EC50 : Effective Concentration 50
TWA : Time Weighted Average
STEL : Short Term Exposure Limit

Key literature references and sources for data

ECHA: <http://echa.europa.eu/>

IFA GESTIS: [http://gestis-en.itrust.de/nxt/gateway.dll?f=templates\\$fn=default.htm\\$vid=gestiseng:sdbeng](http://gestis-en.itrust.de/nxt/gateway.dll?f=templates$fn=default.htm$vid=gestiseng:sdbeng)

HSDB: <http://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

ICSC: <http://www.ilo.org/dyn/icsc/showcard.home>

eChemPortal: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

NITE-CHRIP: http://www.nite.go.jp/en/chem/chrip/chrip_search/srhInput

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch

TÜV SÜD Group

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Technical Report checked: _____
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