



Omniglow Corporation
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MATERIAL SAFETY DATA**MSDS No. 5797-02****Date: 7/31/00****Supersedes: 5/2/97****PRODUCT IDENTIFICATION**

PRODUCT NAME: "ACTIVATED" Chemiluminescent Product
(Reverse Oxalate Component) All Colors

SYNONYMS: All products EXCEPT Flex-Stick® Lightsticks, 15" Lightstick, Speculite® Lightstick, Mini Lightsticks type B & E, Pop-To-Lite™ Cubes type B and E, Slide Light

CHEMICAL FAMILY: Plastic article containing chemiluminescer and activator components.

MOLECULAR FORMULA: Mixture

MOLECULAR WEIGHT.: Mixture

COMPOSITION

Component	C.A.S. #	Weight %
Polyethylene	9002-88-4	35-56%
Glass	-----	12-13%
Chemiluminescer	-----	24-30%
Activator	-----	19-24%

OSHA REGULATED COMPONENTS

COMPONENT	C.A.S. #	Weight%	TWA/CEILING	REFERENCE
tert-Butyl alcohol	75-85-0	2-3%	100 ppm 150 ppm STEL	OSHA/ACGIH
Dimethyl phthalate	131-11-3	15-20%	5 mg/m ³	OSHA/ACGIH
Hydrogen peroxide 70%	7722-84-1	0.5-0.7%	1.4 mg/m ³	OSHA/ACGIH

NRPA HAZARD RATING

1 FIRE: Material that must be preheated before ignition can occur.

0 HEALTH: Materials that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible material.

0 REACTIVITY: Materials that in themselves are normally stable, even under fire exposure conditions, and which are not reactive with water.

HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE: Overexposure to chemical ingredients is not likely to cause significant acute toxic effects. The acute oral (rat) and acute dermal (rabbit) LD50 values are greater than 5 g/kg for the luminescer, activator, fresh mixture, and spent mixture. Upon accidental eye exposure, material should be immediately rinsed from the eyes. No significant skin irritation was observed during animal testing.

FIRST AID

In case of eye contact, immediately irrigate with plenty of water for 15 minutes. Obtain medical attention if irritation persists.

**EXPOSURE
CONTROL METHODS**

Engineering controls are not usually necessary if good hygiene practices are followed. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. Avoid unnecessary skin contact. Impervious gloves are recommended to prevent prolonged skin contact. For operations where eye or face contact can occur, eye protection is recommended. Where exposures are below the Permissible Exposure Limit (PEL), no respiratory protection is required. Where exposures exceed the PEL, use respirator approved by NIOSH for the material and level of exposure. See "GUIDE TO INDUSTRIAL RESPIRATORY PROTECTION" (NIOSH).

**FIRE AND
EXPLOSION
HAZARD
INFORMATION**

FLASH POINT: >200°F (93.3°C)
METHOD: Closed Cup

FIRE FIGHTING: Use water spray, carbon dioxide or dry chemical to extinguish fires. Use water to keep containers cool. Wear self-contained positive pressure breathing apparatus.

**REACTIVITY
DATA**

STABILITY: Stable
CONDITIONS TO AVOID: None known

POLYMERIZATION:
CONDITION TO AVOID: Will Not Occur
None known

INCOMPATIBLE
MATERIALS: None known

HAZARDOUS
DECOMPOSITION
PRODUCTS: Thermal decomposition or combustion may produce carbon monoxide and/or carbon dioxide

**PHYSICAL
PROPERTIES**

APPEARANCE: Article consisting of plastic tube or shape containing broken glass ampoule after activation with oxalate component.

BOILING POINT: N.A.

MELTING POINT: 260 °C

VAPOR PRESSURE: N.A.

SPECIFIC GRAVITY: < Water

VAPOR DENSITY: N.A.

% VOLATILE (BY VOL.): N.A.

pH: N.A.

SATURATION IN AIR
(BY VOL): N.A.

EVAPORATION RATE: N.A.

SOLUBILITY IN WATER: Negligible

SPILL OR LEAK PROCEDURES	STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:	Cover spills with inert absorbent material; sweep up and place in waste disposal container.
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WASTE DISPOSAL	Disposal must be made in accordance with applicable governmental regulations.	
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SPECIAL PRECAUTIONS	HANDLING AND STORAGE/OTHER:	NONE
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D.O.T. SHIPPING INFORMATION	PROPER SHIPPING NAME:	NOT APPLICABLE
	HAZARD CLASS:	NOT APPLICABLE
	UN/NA:	NOT APPLICABLE
	D.O.T. HAZARDOUS SUBSTANCES:	(Reportable quantity of product) Dimethyl Phthalate (5000 lbs)
	D.O.T. LABEL REQUIRED:	NOT APPLICABLE

TSCA INFORMATION	This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U.S.C.
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ENVIRONMENTAL INFORMATION	<p>Wastes that are classified as hazardous waste are potentially subject to the RCRA Land Disposal Restrictions. The Land Disposal Restriction regulations are contained in 40 CFR 268. Only waste which meet the regulatory definition of a hazardous waste are subject to the land disposal restrictions.</p> <p>Activated light sticks do not meet the definition of a Characteristic Hazardous Waste and therefore, under the regulations, can be disposed of as a solid waste in solid waste landfills and incinerators unless prohibited by site-specific solid waste facility restriction.</p>
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This information is given without any warranty or representation. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification. Before using any product, read its label.

MEDICAL EMERGENCY PHONE	800-228-5635 Ext. 162
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- Company Information
- Product Applications
- FAQ
- Office Locations
- Student Resources
- Products
 - Crazy Glow
 - Monster Glow
 - Bovine Beacon
 - Military
 - Fishing
 - Safety/SEP
 - Safety Glow
 - Reflective Phololum
 - Shipping Goods

Frequently Asked Questions

What makes glow products work?

Can I take off the foil wrapper?

Are glow products safe?

Are glow products toxic?

How can you turn them off?

What happens if the product ruptures?

How long do they last?

Are they waterproof?

What is the shelf life?

Are they affected by temperature?

1. WHAT MAKES OMNIGLOW PRODUCTS GLOW ITEMS WORK?

Light is provided by a chemical reaction which takes place when two solutions are allowed to mix. To prevent the reaction from occurring prematurely, one of the solutions is stored in a very thin glass capsule which is easily broken by flexing or bending the tube. To activate LIGHTSHAPE® Stick-on-Buttons, squeeze the shape until all the inner capsules break, then shake, keeping the front of the shape face down.

TOP

2. ARE GLOW PRODUCTS SAFE?

CYALUME, MAGIC IN THE NIGHT and OMNIGLOW brand products are safe for normal use. They are not sources of heat or sparks, and may be used in areas which contain combustible mixtures of gasses or liquids, where ordinary sources of light might pose an explosion or fire hazard. Omniglow does not recommend them for use by children 6 and under.

TOP

3. HOW DO YOU "TURN THEM OFF"?

CYALUME, MAGIC IN THE NIGHT and OMNIGLOW brand products cannot be shut off once they are activated. If the product is wrapped in a foil sealer, you may return the product to it's wrapper for a dimming effect. The reaction cannot be stopped once started.

TOP

4. HOW LONG DO GLOW PRODUCTS LAST?

CYALUME, MAGIC IN THE NIGHT and OMNIGLOW

brand products will glow from 4 to 12 hours after being activated, based on the size and type of product used.

TOP

5. HOW LONG CAN I KEEP THEM ON THE SHELF?

Quality control studies have shown that if the outer foil wrapper has not been damaged, the product should have a shelf-life of one to four years, depending on the product used. NOTE: Store LIGHTSHAPE® products in their box and LITE-ROPE® necklaces in their tubes until they are ready to be used.

TOP

6. CAN I REMOVE THE FOIL OR TAKE PRODUCTS OUT OF THE PACKAGE?

Due to their sensitivity to humidity, most OMNIGLOW brand products are wrapped in an airtight, outer foil wrapper. Should the wrapper become punctured and the product go unused for a few days, light emission will be reduced. If the product is left in the damaged wrapper for a longer period of time, it is possible for it to become totally deactivated. If the LIGHTSHAPE® product is taken out of the carton for a period of time it, too, may become totally deactivated. LIGHTSHAPE® Stick-on-Buttons and LITE-ROPE® necklaces are not sensitive to moisture but are sensitive to light and should be kept in the package until ready for use.

TOP

7. ARE GLOW PRODUCTS TOXIC?

OMNIGLOW brand products were tested according to the regulations of the Federal Hazardous Substances Act used to determine whether a substance is highly toxic, corrosive or irritant. The components in our products were found to be none of these.

TOP

8. WHAT HAPPENS IF THE PRODUCT IS RUPTURED ACCIDENTALLY?

The solutions contained in OMNIGLOW brand products are non-toxic and will not cause injury to the skin or eyes. Eye contact may cause temporary discomfort similar to that produced by soaps or shampoos. Should an accident occur, rinse the affected area thoroughly with water, then repeat the process. These solutions can soften or mar paint and varnish, and can stain fabric. Dry cleaning, however, may remove these stains. On carpet, we recommend Resolve. If you have any concerns about possible allergic reactions or sensitivities, please speak with Omniglow's medical

emergency contact at 1-800-228-5635 x. 162.
Omniglow recommends not using glow products with children under 6 years of age and strongly encourages all users to use common sense when handling its product.

TOP

9. ARE THEY WATERPROOF?

Omniglow products are waterproof and may be used in the rain as well as underwater in both fresh and saltwater.

TOP

10. WILL OMNIGLOW PRODUCTS BE AFFECTED BY TEMPERATURE?

Omniglow products give maximum light emission when used at temperatures ranging from 60°F.-80°F. If the temperature is higher than 80°F, the light will be brighter, but will last for a shorter duration. If the temperature is lower than 60°F, the light will be less bright, but will last longer. As temperature decreases, intensity decreases and duration of light output increases.

TOP

***Important Notice:** The information and statements contained herein are reliable to the best of our knowledge, and should not be construed as a warranty or representation for which we assume legal responsibility. Users should exercise common sense and normal caution when using any Omniglow product. Omniglow does not recommend its products for children 5 or under. TOP

ALL OMNIGLOW PRODUCTS ARE MADE WITH CYALUME® TECHNOLOGY

CYALUME, SNAPLIGHT, PML, IMPACT, FLEX-STICK, LITE-UP, GLOW STICK, LUNKER LIGHTS and LIGHTSHAPE, MAGIC IN THE NIGHT and S.E.E. are trademarks of OMNIGLOW CORPORATION.

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For product questions or purchasing information, please [email](#) Omniglow's Customer Service Center or call 1-800-762-7548(USA) or 413-737-8636(EST).

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Website questions/comments to webmaster@omniglow.com.



Company Information	<h2 style="text-align: center;"><i>Company Information</i></h2> <p>Omniglow chemical light products were first developed for the U.S. Military as light and signaling devices during covert and night operations (the Military is still one of Omniglow's largest customers!). Omniglow's markets have expanded to include customers all over the world!</p> <p>Today, Omniglow manufactures over 100 different products used in industries such as: Safety Emergency Preparedness, Military/Government, Novelty, Fishing, Biomedical, Auto-aftermarket, and Agriculture.</p> <p>All of Omniglow's products are available in a variety of shapes, sizes, colors and duration times. They offer both safe light and fun, depending upon the application. The uses are limitless!</p> <p>For more detailed product information, please visit our products page and other links. Or, contact Omniglow Customer Service at 1-800-762-7548 (USA)/413-739-8252.</p> <p style="text-align: center;"> Home • Contact Us • Privacy Policy • Legal Notice Company Information • Product Applications • F.A.Q. • Office Locations Student Resources • Products </p> <p style="text-align: center;">For product questions or purchasing information, please email Omniglow's Customer Service Center or call 1-800-762-7548(USA) or 413-737-8636(EST).</p> <p style="text-align: center;">Copyright © 2002 Omniglow Corporation - all rights reserved.</p> <p style="text-align: center;">The Omniglow logo is a trademark of Omniglow Corporation. Website questions/comments to webmaster@omniglow.com.</p>
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TABLE 519.4-III: Gun specifications.

Gun	Gun Caliber		Blast Energy, E (J)*	Rate of Fire-spm
	(mm)	(in)		
GAU-23/A/M-134	7.62	.30	6,700	1.5k, 2k, 4k, 6k
M60	7.62	.30	6,700	550
GAU-4/A	20	.79	74,600	6000
M240	7.62	.30	6,700	600-800
GAU-8/A	30	1.18	307,500	2100, 4200
M230	30	1.18	101,000	625 ±25
AN-M3	12.7	.50	26,000	1000-1200
AN-M2	12.7	.50	26,000	500-600
M3 (NAVY)	20	.79	83,000	
XM218	12.7	.50	26,000	700-800
MK24 (NAVY)	20	.79	80,500	
M30 (USAF)	20	.79	74,600	1400-1500
M61A1 (AF/NAVY)	20	.79	74,600	3000, 4000, 6000
MK11 (NAVY)	20	.79	86,500	4200
MK12 (NAVY)	20	.79	86,500	

*joules (J) x 0.7376 = foot-pounds

TABLE 519.4-II. Typical gun Configurations associated with aircraft classes.

Aircraft/POD	Gun (Quantity)	Location	Firing Rate (Rnds/Min)	Rounds Capacity
A-4	MK12 (2)	Wing Roots	1000	100/gun
A-7D	M61A1 (1)	Nose, Left Side	4000 & 6000	1020
A-10	GAU-8/A (1)	Nose	2100 & 4200	1175
A-37	GAU-2B/A (1)	Nose	6000	1500
AH-1	M97E1/E2, M197 (1)	Chin Turret	730 ±50	750
AH-1	GPU-2A M197 (1)	Store Station Gun Pod	750/1500	300
AH-1	M-18 M134/GPU-2B (1)	Store Station Gun Pod	3000/6000	1500
UH-60	XM-144 M-60 (2)	Pintle Mount Windows	550 ea.	200/gun
AH-64	M139 M230 (1)	Chin Turret	625 ±25	1200
UH-1	M23 M-60 Gun (2)	Pintle Mount (Door Gun)	550	550
OH-6	M27 M134/GAU-2B (1)	Side Mount	2000/4000	2000
MH-60	G.E.M134 (2)	Pintle-Windows	2000/4000	2000/gun
MH-47	G.E. M134 (2)	Pintle-Door Window	2000/4000	4000/gun
CH47	M24 M-60 Gun (2)	Pintle Door/ Window	550 ea.	200/gun (approx)
AH-60	IESP M134 (2)	Plank- Rear comp't	1000/4000 750 ±50	1400 ea. 250 ea.
CH53D	AN/M-2 (2) Contract Fab	Store Station (L.H)	750 ±50 750 ±50	500
F-4	AN/M2 (1) M61A1 (1)	Nose	4000 & 6000	633
F-5E	M39 (2)	Nose	3000	300/gun
F-5F	M39 (1)	Nose	3000	140
F-14	M61A1 (1)	Nose, Left Side	4000 & 6000	676
F-15	M61A1 (1)	Right Wing Root	4000 & 6000	940
F-16	M61A1 (1)	Left Wing Root	6000	510
F-18	M61A1 (1)	Nose, Top Center	4000 & 6000	570
F-111	M61A1 (1)	Underside of Fuselage	5000	2084
GEPOD 30	GE430 (1) (GAU-8/A)	POD	2400	350
SUU-11/A	GAU-2B/A (1)	POD	3000 & 6000	1500
SUU-12/A	AN-M3 (1)	POD	1200	750
SUU-16/A	M61A1 (1)	POD	6000	1200
SUU-23/A	GAU-4/A (1)	POD	6000	1200

METHOD 519.4

TABLE 519.4-III. Gun specifications.

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	(mm)	(in)		
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GAU-4/A	20	.79	74,600	6000
M240	7.62	.30	6,700	600-800
GAU-8/A	30	1.18	307,500	2100, 4200
M230	30	1.18	101,000	625 ±25
AN-M3	12.7	.50	26,000	1000-1200
AN-M2	12.7	.50	26,000	500-600
M3 (NAVY)	20	.79	83,000	
XM218	12.7	.50	26,000	700-800
MK24 (NAVY)	20	.79	80,500	
M30 (USAF)	20	.79	74,600	1400-1500
M51A1 (AF/NAVY)	20	.79	74,600	3000, 4000, 6000
MK11 (NAVY)	20	.79	86,500	4200
MK12 (NAVY)	20	.79	86,500	

*Machine
gun*

*recommended
by Bitt*

*joules (J) x 0.7376 = foot-pounds

47 pages withheld in their entirety
exemption 4