

Safety Data Sheet



Product name:

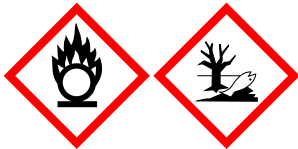
Candle Ignitor

Revised edition no: OCL 140 - Rev A

Date: 21-July-2025

Supersedes: N/A

Section 1	PRODUCT AND COMPANY IDENTIFICATION	
1.1	Product Name	Ignition Match for Chlorate Candle
1.2	CAS Number	Mixture
1.3	Product Use	Relevant identified uses: Thermal ignition source for chlorate candle
1.4	U.N. Number	1325
1.5	U.N. Dangerous Goods Class	4.1 Flammable solids
1.6	Supplier / Manufacturer's Name	O.C. Lugo, Co. Inc. (A subsidiary of Molecular Products Inc) 633 CTC Boulevard Suite 200, Louisville CO 80233, USA
1.7	Emergency Contact	1-888-665-7763 (Hours: 7:00AM – 5:00PM Mountain Time)
1.8	Date of Initial Preparation	11 July 2025
1.9	Date of Previous Revision	N/A

Section 2	HAZARDS IDENTIFICATION						
2.1	Classification of the substance or mixture (Chlorate candle)						
2.1.1	Classified according to OSHA 2012 HCS 29 CFR 1910.1200 and the Canadian Hazardous Products Act WHMIS 2015. The product is classified and labelled according to the Globally Harmonized System (GHS).						
	Flammable solid (Category 1)	H228	Chronic aquatic toxicity (Category 3)	H412			
2.1.2	Classification according to EU directives 67/548/EEC		F – Highly flammable	R 11	R 16	R52/53	
2.2	Labelling elements						
2.2.1	Labelling in accordance with 29 CFR 1910.1200 (OSHA HCS)						
	Pictograms					Signal Word	DANGER
	Hazard Statement(s)						
	H228		Flammable solid				
	H412		Harmful to aquatic life with long lasting effects				
	Precautionary Statement(s)						
	P210		Keep/store away from heat/sparks/open flame/hot surfaces. – No smoking.				
	P240		Ground and bond container and receiving equipment.				
	P241		Use explosion proof electrical equipment if dust clouds can occur.				
	P273		Avoid release to the environment				
	P280		Wear protective gloves, clothing, eye and face protection.				
	P370 + P378		In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.				
	P501		Dispose of contents / container to an approved waste disposal plant.				

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Section 3	COMPOSITION AND INFORMATION ON INGREDIENTS			
	Chemical characterization	Mixture of inorganic substances		
	Hazardous Ingredients	Concentration	CAS #	Hazard Classification / Risk Phrases
	Red phosphorus	90% - 95%	7723-14-0	Flammable Solid 1 H228 Aquatic chronic 3 H412
	Cellulose nitrate	1% - 5%	9004-70-0	Flammable liquids 3 H226
	Inerts	Balance		Not classified

NOTE:

Section 4	FIRST-AID MEASURES	
4.1	Description of measures	
	Contaminated individuals of chemical exposure must be taken for medical attention if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to health professional with contaminated individual.	
	Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Avoid strong stream of water due to the risk of mechanical damage to the cornea. Seek medical advice if necessary.
	Skin Contact	Immediately remove contaminated clothing. Flush contaminated skin with plenty of water with soap and more water. Seek medical advice if necessary.
	Inhalation	If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
	Ingestion	Do NOT induce vomiting. Rinse mouth out with water. Consult a physician.
4.2	Most important effects/symptoms both acute and delayed	
	Inhalation	Persons exposed to high levels of the product are susceptible to respiratory diseases. The repeated inhalation of dust may cause damage to the central nervous system. Harmful if inhaled.
	Eye Contact	Significant concentration of dust or direct ingress of substances into the eyes may cause irritation, redness, tearing, burning and conjunctivitis.
	Skin Contact	May cause irritation, redness, dryness, itching and inflammation
	Ingestion	May cause irritation of the mucous membrane of the digestive tract and stomach, nausea, vomiting, diarrhea, and stomach pain. Harmful if swallowed.
4.3	Immediate/special treatment	
	Remove affected person from the contaminated product. In the event of health problems, immediately consult your doctor or a center of toxicological concern. Provide the information contained in the SDS. If unconscious do not give anything by mouth.	

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Section 5	FIRE-FIGHTING MEASURES	
	Flash Point	Data not available
5.1	Suitable extinguishing media	Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
	Unsuitable media	For this mixture, no limitations of extinguishing agents are given.
5.2	Special Hazards	Combustible, avoid breathing combustion products (oxides of phosphorus).
5.3	Advice for Fire Fighters	Wear full protective equipment and self-contained breathing apparatus (SCBA). If containers are exposed to high temperatures cool with water and if possible, remove from area. Take up mechanically. Keep out of drains, surface water and soil. Place water waste in containers and dispose of contents/container to authorized recipient of hazardous waste.

Section 6	ACCIDENTAL RELEASE MEASURES	
6.1	Personal Precautions	Adhere to personal protective measures. Avoid inhalation of dust, if created. Keep away from heat and sources of ignition.
6.2	Environmental Precautions	Do not allow to get into wastewater or waterways; if this occurs, inform the relevant authority at once. Risk of explosion.
6.3	Methods and materials for cleaning up	Covers drains. In the event of spillage, take up large and small fragments mechanically (e.g. sweep or vacuum up small fragments being first treated with damp sand) into tightly closed containers. Adhere to personal protective measures. Label container and dispose of as prescribed.
6.4	Reference to other sections	See section 8 for personal protective equipment.

Section 7	HANDLING AND STORAGE	
7.1	Precautions for safe handling	Handle in accordance with good chemical hygiene and safety practice. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
7.2	Conditions for safe storage	Ensure adequate ventilation of the storage area. Keep containers tightly closed, cool and dry, avoiding direct sunlight and away from organic, oxidizing combustible materials and strong acids.
7.3	Storage class	4.1B, Flammable solid hazardous materials. Heat sensitive.
7.4	Specific end use(s)	See section 1.2

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Section 8	EXPOSURE CONTROLS / PERSONAL PROTECTION								
8.1	Exposure Limits/Guidelines								
	Chemical Name		CAS #			OSHA TWA (8 hours)			
	Red phosphorus (solid unless damaged)		7723-14-0			0.1 mg/m ³			
	Cellulose nitrate		9004-70-0			N/A			
	Substance Name	Red phosphorus							
	EC number	231-768-7		CAS number		7723-14-0			
	DNELs								
		Workers				Consumers			
	Route of exposure	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effects local	Acute effects systemic	Chronic effects local	Chronic effects systemic
	Oral	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	30 mg/kg bw/day	30 mg/kg bw/day
	Inhalation	No hazard identified	No hazard identified	No hazard identified	4 mg/m ³	No hazard identified	No hazard identified	No hazard identified	4 mg/m ³
	Dermal	No hazard identified	No hazard identified	No hazard identified	30 mg/kg bw/day	No hazard identified	No hazard identified	No hazard identified	30 mg/kg bw/day
	PNECs								
	Environmental Protection target				PNEC				
	Fresh water				10.5 µg/L				
	Fresh water sediments				100 mg/kg sediment dw				
	Marine water				1.05 µg/L				
	Marine sediments				10 mg/kg sediment dw				
	Food chain				0.01 g/kg food				
	Microorganisms in sewage treatment				10 mg/L				
	Soil (agriculture)				12.5 mg/kg soil dwt				
	Air				No hazard identified				
8.2	Exposure controls								

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Section 8	EXPOSURE CONTROLS / PERSONAL PROTECTION		
	The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.		
	Engineering controls	Mandatory general regulations on occupational health. For hazardous constituents, do not allow the environmental and workplace concentration limits to exceed values stated above. Ensure that exposed skin is washed and contaminated clothing is disposed of/cleaned if reused. Do not eat, drink, or smoke. Avoid skin and eye contact, wash hands and face before and after working with the product. Avoid inhalation of dust and provide adequate local and general ventilation	
	Personal protection	Observe normal standards for handling chemicals Wash hands before breaks and after work Avoid inhalation of dust is raised Wear personal protective equipment appropriate to the task (see below)	
	Eye Protection	Wear suitable protective glasses/goggles e.g. Polycarbonate (EN 166)	
	Skin protection	Wear protective chemical resistant gloves.	
	Respiratory Protection	If dust is generated, wear approved dust mask or respirator with filter APF 10/APF 20	
	Other Protection	Concentrations of hazardous substances should be monitored in accordance with recognized test methods. Mode, method, type and frequency of testing (measurement of harmful factors) should meet the requirements of local/regional/national laws	
	Environmental exposure	Do not introduce the product to ground water, sewage, wastewater, or soil	

Section 9	PHYSICAL AND CHEMICAL PROPERTIES			
9.1	Basic Physical and chemical properties			
	Physical State	Solid	Color	Brownish-red
	Odor	Odorless	pH	Not determined
	Boiling pt/range	Not applicable	Melting pt/range	Approx. 1094°F
	Flash point	500°F	Relative density	2.34 g/cm ³
	Water solubility	None	Odor threshold	Not applicable
	Evaporation rate	Not applicable	Flammability	Flammable
	Explosion limits	Not applicable	Vapor pressure	Not applicable
	Vapor density	Not applicable	Partition coeff.	Not applicable
	Auto-ignition temperature	460°F	Viscosity	Not applicable
	Explosive properties	Not explosive unless dust is generated	Oxidizing properties	Not applicable
	Decomposition temperature	781°F		

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Section 10	STABILITY AND REACTIVITY	
10.1	Reactivity	Can burn with exploding violence if in contact with oxidizing agents.
10.2	Chemical stability	Can be ignited with sufficient heat and friction.
10.3	Hazardous reactions	Flammable solid that will burn when heated to form oxides of phosphorus on heating or ignition (friction or impact can cause ignition). Reacts violently with oxidizing agents.
10.4	Conditions to Avoid	Keep away from heat, open flames, sparks and other ignition sources.
10.5	Incompatible material	Oxidizers
10.6	Hazardous decomposition products	Oxides of phosphorus

Section 11	TOXICOLOGICAL INFORMATION						
11.1	Toxicity: There is no available data for the product, only for the ingredients.						
	Information is for red phosphorus (CAS# 7723-14-0, EC# 231-768-7)						
	Hazard class	Method	Species	Route of exposure	Effective dose	Exposure time	Results
	Acute toxicity	LD ₅₀	Rat, female	oral	>15 mg/kg	No data	OECD Test Guideline 401 for red phosphorus
	Skin corrosion/irritation		Rabbit	skin	No skin irritation	24 hrs	OECD Test Guideline 404 for red phosphorus
	Serious eye damage/irritation		Rabbit	eyes	No eye irritation	24 hrs	OECD Test Guideline 405 for red phosphorus
	Respiratory or skin sensitization	Buehler Test	Guinea pig	skin	Does not cause skin sensitization	No data	OECD Test Guideline 406 for red phosphorus
	Germ cell mutagenicity		Hamster	fibroblast	Negative	No data	
	Carcinogenicity	Not carcinogenic					
	Reproductive Toxicity	No data					
	Summary of evaluation of the CMR properties	Not a CMR					
	STOT -single exposure	No data					
	STOT -repeated exposure	No data					
	Aspiration hazard	No data					
11.2	Information on other hazards	None.					

Section 12	ECOLOGICAL INFORMATION	
12.1	Toxicity (information for red phosphorus)	
	All work practices must be aimed at eliminating environmental contamination.	
	Acute (short-term) toxicity	Fish (zebra fish): LC50 33.2 mg/L – 96 h Crustacea: EC50 10.5 mg/L – 48 h Algae/aquatic plants: EC50 – 18.3 mg/L – 72 h Other organisms (bacteria): 1.0 mg/L – 3 h
	Chronic (short-term) toxicity	Fish: No data Crustacea: No data Algae/aquatic plants: No data Other organisms: No data
12.2	Persistence and degradability	Abiotic Degradation: No data Physical- and photo-chemical elimination: No data Biodegradation: No data

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Section 12	ECOLOGICAL INFORMATION	
	Bioaccumulative potential	No data
	Mobility in soil	No data
	Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.
	Endocrine disrupting properties	Not regarded as an EDC
	Other adverse effects	Harmful to aquatic life with long lasting effects.

Note: This product is readily biodegradable and is not expected to bio-accumulate.

Section 13	DISPOSAL CONSIDERATIONS	
13.1	Waste treatment methods	
	Product/ Packaging disposal	If possible, recycle to supplier or approved recycling company. If not (e.g. designated as waste), dispose of in accordance with national, state, and local laws and regulations,
	Waste treatment- relevant information	Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
	Sewage disposal – relevant information	No data
	Other disposal recommendations	Contaminated packaging, dispose of as unused product.

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Section 14	TRANSPORTATION INFORMATION	
14.1	U.S. DOT, IATA, IMO, and ADR	
14.2	Proper Shipping Name	UN1338, Candle Ignitor, red phosphorus, 4.1
14.3	Hazard Class Number and Description	4.1 Flammable solids
14.4	U.N. Identification Number	UN 1325
14.5	Packing Group	III
14.6	DOT Label(s) Required	
14.7	North American Emergency Response Guidebook Number (2004)	133
14.8	Marine Pollutant	The product should not be marked as a marine pollutant.
14.9	International Air Transport Association (IATA)	FLAMMABLE SOLID

Section 15	REGULATORY INFORMATION	
	United States Regulations	
	SARA Reporting Requirements	N/A
	Toxic Control Substance Act (TCSA)	N/A
	SARA 311/312	N/A
	U.S. SARA Threshold Planning Quantity	N/A
	U.S. CERCLA Reportable Quantity (RQ)	N/A
	Clean Water Act (CWA)	N/A
	State Regulations	N/A
	California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)	N/A
	Canadian Regulations	
	Canadian DSL/NDL Inventory Status	N/A
	Canadian Environmental Protection Act (CEPA) Priorities Substances Lists	N/A
	Canadian WHMIS Classification and Symbols	N/A
	European Economic Community Information	
	EU Labelling and Classification	The SDS has been updated in accordance with UN GHS ST/SG/AC.10/30/Rev.10
	Standard for the Uniform Scheduling of Drugs and Poisons	N/A
	U.S. TSCA	N/A

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Section 16	OTHER INFORMATION	
	NFPA Ratings	The ratings below are for Red Phosphorus, CAS# 77723-14-0
	Code for Flammability:	I
	Code for Health:	I
	Code for Reactivity:	I
	Code for Special Hazards: X	N/A
	PREPARED BY	Molecular Products, Inc.
	Disclaimer: The information in this safety data sheet is based on the best knowledge available at the time and current legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for a particular application. As the specific conditions of use are outside the control of the supplier, the user is responsible for ensuring that the product is used in a safe way and in compliance with the relevant requirements of legislation.	
	Date of issue	25 July 2025