

# Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910. 1200. Standard must be consulted for specific requirements

## MODEL 4220 40mm CN Smoke Cartridge

### QUICK IDENTIFIER

Common Name: (used on label and list)

### SECTION 1

Manufacturer's Name	Combined Tactical Systems, Inc.		
Address	388 Kinsman Road	Emergency Telephone No.	800-424-9300
City, State and ZIP	Jamestown, PA 16134	Other Information Calls	724-932-2177
Signature of Person Responsible for Preparation (Optional)	Date Prepared		12/29/98

### SECTION 2 - HAZARDOUS INGREDIENTS / IDENTITY

Hazardous Component(s) (chemical & common name(s))	OSHA PEL	ACGIH TLV	Other Exposure Limits	% (Optional)	CAS No.
Primer, Shot Shell, W209				6.5gm	
Propellant, Black Powder				1.6gm	
<b>Starter Mixture</b>				5gm	
Potassium Nitrate					7557-79-1
Silicon		10mg/m <sup>3</sup>			7440-21-3
Charcoal		15Mppcf			
<b>CN Smoke</b>				95gm	
Fuel Mixture				71%	
Potassium Chlorate		5mg/m <sup>3</sup>			3811-04-1
Sucrose	15mg/m <sup>3</sup>	10mg/m <sup>3</sup>			57-50-1
Magnesium Carbonate	15mg/m <sup>3</sup>	10mg/m <sup>3</sup>			546-93-0
Nitrocellulose					9004-70-0
CN				29%	
chloroacetophenone	.05ppm	.05ppm			532-27-4

### SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS

Boiling Point	NA	Specific Gravity H <sub>2</sub> O=1	NA	Vapor Pressure (mm Hg)	NA
Vapor Density (Air=1)	NA	Solubility in Water	Not soluble in water	Reactivity in Water	NA
Appearance & Odor	White crystal, Pungent odor			Melting Point	NA

### SECTION 4 - FIRE & EXPLOSION DATA

Flash Point	NA	Method Used	NA	Flammable Limits in Air % by Volume	LEL Lower	NA	UEL Upper	NA
Auto-Ignition Temperature	NA	Extinguisher Media	CO <sup>2</sup> , Dry Chemical, water					
Special Fire Fighting Procedures		Do Not Fight Fire, If ignition occurs evacuate downwind area, allow unit to burn out						
Unusual Fire & Explosion Hazards		Net Explosive Weight (NEW) 1.6gm						

**SECTION 5 - PHYSICAL HAZARDS (REACTIVITY DATA)**

Stability	Unstable	<input type="checkbox"/>	Conditions to Avoid	Heat, Flames
	Stable	<input checked="" type="checkbox"/>		
Incompatibility (Materials to Avoid)	Strong oxidizing agents			
Hazardous Decomposition Products	Burning may produce carbon monoxide and/or carbon dioxide			
Hazardous Polymerization	May Occur	<input type="checkbox"/>	Conditions to Avoid	None
	Will Not Occur	<input checked="" type="checkbox"/>		

**SECTION 6 - HEALTH HAZARDS**

1. Acute	None under normal handling	2. Chronic	None under normal handling			
Signs and Symptoms of Exposure	Tearing of eyes, irritation of respiratory tract and mucous membranes					
Medical Conditions Generally Aggravated by Exposure	Respiratory tract - Asthma					
Listed as Carcinogen or Potential Carcinogen	National Toxicology Program	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	I.A.R.C. Monographs	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	OSHA	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Emergency and First Aid Procedures	If any medical problem arises from the use of this product seek medical attention from qualified medical persons.					
<b>ROUTES OF ENTRY</b>	1. Inhalation	Fresh Air, Oxygen if needed				
	2. Eyes	Flush with copious amounts of water, Fresh Air				
	3. Skin	Wash with copious amounts of water				
	4. Ingestion	Contact Physician				

**SECTION 7 - SPECIAL PRECAUTIONS & SPILL / LEAK PROCEDURES**

Precautions in Handling and Storage	Keep away from heat, flames or strong oxidizers
Other precautions	Handle as DOD, UN, and DOT explosive devices per Federal, State and Local Laws.
Steps to be Taken in Case Material is released or Spilled	Wear suitable protective clothing, Undamaged units may be picked up and returned to shipping container
Waste Disposal Method (Consult Federal, State and local Regulations)	By persons qualified to dispose of explosives at an approved site under approved procedures.

**SECTION 8 - SPECIAL PROTECTION INFORMATION / CONTROL MEASURES**

Respiratory Protection (Specify Type)	Full face respirator with organic filter cartridge, or self contained breathing apparatus (SCBA)								
Ventilation	Yes	Local Exhaust	Yes	Mechanical (General)	Yes	Special	No	Other	No
Protective Gloves	Yes	Eye Protection	Yes	Other Protective Clothing or Equipment	As necessary to prevent skin contact				
Work / Hygienic Practices	Wash thoroughly after handling								

**IMPORTANT** - Do not leave any blank spaces. If required information is unavailable, unknown or does not apply, so indicate.