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PRODUCT INFORMATION

SAFE-VUE™ White Smoke Candles
#10-030, #10-060, #10-180 and #10-182
#10-200 Standard Smoke Grenade
#10-210 Professional Smoke Grenade

E. Vernon Hill, Inc. provides this information sheet to our customers as a guideline for the use and storage of *SAFE-VUE™* White Smoke Candles and White Smoke Grenades. Read and follow all safety instructions. Improper use of these items may result in damage or injury.

• Product Applications

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SAFE-VUE White Smoke Candles (#10-030, 10-060, 10-180, 10-182) are fuse lit and are available in four different varieties. *SAFE-VUE* White Smoke Grenades (#10-200, 10-210) use a "pull-tab" ignition system and are available in two varieties.

The smoke created by these products is white to gray in color and is actually a zinc chloride mist consisting of over 50% atmospheric moisture, zinc chloride, and other by-products of combustion such as free carbon.

These candles are intended for air movement testing and leak detection. The high volume of smoke generated makes these candles suitable for leak testing in air ducts and sewer lines.

• Product Safety

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SAFE-VUE White Smoke Candles and Grenades can be used without hazard if applied as directed. The main effects of the smoke are some minimal irritation of the throat and the awareness of an odd odor.

These effects act as a warning and are desirable to prevent involuntary overexposure. Individuals are urged not to accept exposures that cause irritation, but to leave the area immediately. **Persons with respiratory ailments must never be exposed to any smoke.**

Acute inhalation exposure can cause irritation of the respiratory tract and mucous membranes. In itself, irritation is not usually regarded as a toxic effect unless it is sufficient to cause inflammation. In that case, inflammation, not irritation, is the toxic effect.

If overexposure to the smoke occurs, remove victim to fresh air. If breathing is difficult, get medical attention.

Acute eye exposure to the smoke is not likely to induce eye irritation. Skin absorption is not a significant route of exposure.

• Storage And Shelf-Life

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SAFE-VUE White Smoke Candles and Grenades are extremely sensitive to atmospheric moisture. Any exposure to moisture will render these candles useless. Store unused candles and grenades in a totally dry environment such as a well-sealed can. Store unused candles and grenades in a cool, dry place.

E. Vernon Hill, Inc. guarantees the proper function of its *SAFE-VUE* white smoke candles and grenades for one year after date of purchase only when they have been stored properly. After that period, the candles and grenades may fail to ignite.

These products should be accessible only to those who are familiar with their safe and proper use and who are familiar with all safety material. Store the products in a locked cabinet or other secure place. Keep away from children at all times.

• Usage Guidelines

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To use *SAFE-VUE* White Smoke Candles, light the fuse and immediately place the candle on the ground or in a suitable container such as an empty coffee can. Smoke will issue from the side of the candle.

To use *SAFE-VUE* White Smoke Grenades, pull on the cloth strap to remove the paper end-cap. Hold grenade firmly in one hand. Be sure the ignition ring end of the grenade is pointed towards you and the end opposite the ignition ring is pointed *away* from you. Gently but firmly pull ignition ring. Smoke will issue from the end opposite the ignition ring. Immediately throw grenade or place on ground.

Caution: *SAFE-VUE* #10-200 and #10-210 White Smoke Grenades generate extremely large volumes of smoke. Never use these grenades indoors or in any kind of enclosed space. Always insure that proper ventilation is provided.

Both the candles and grenades become hot when lit. **Never hold a burning candle or grenade in your hand.** Not to be taken internally. Keep out of the reach of children.

• Fire

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SAFE-VUE White Smoke Candles and White Smoke Grenades contain no explosive ingredients and pose no known unusual fire hazard. The smoke generated is not explosive.

These items are pyrotechnic in nature and burn to generate their smoke. When ignited, these candles and grenades will become hot. Do not place a lit candle or grenade in any place where fire is a danger.

To extinguish a lit candle or grenade, use media suitable for surrounding a fire. Use self-contained breathing apparatus and full protective clothing when fighting a fire involving these candles.

• Product Disposal

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After a candle or grenade has been used, ventilate testing area well. Use local exhaust to keep exposure to a minimum. The duration of smoke and length of exposure can be reduced by using in a well ventilated area.

Be certain candles and grenades are fully extinguished before disposal. Dispose of candles and grenades in a chemical disposal area in a manner that complies with local, state and federal regulations.

• Shipping

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SAFE-VUE White Smoke Candles (#10-030, 10-060, 10-180 and 10-182) are shippable and mailable within the United States. Although SAFE-VUE White Smoke Grenades (#10-200 and 10-210) contain no explosive ingredients, they ship as a hazardous material categorized as "Explosive 1.4G - UN#0197." Contact your transportation provider before shipping these products.

TECHNICAL INFORMATION

Product Ingredients

Eight-Hour Time Weighted Average:

	TLV	PEL
Hydrated Zinc Chloride	1 mg/m ³	1 mg/m ³
Water Condensate	-	-
Carbon Monoxide	55 mg/m ³	55 mg/m ³

Neither TLV nor PEL is applicable because product is intended for use in short term testing. All other ingredients are non-hazardous and/or present in negligible amounts.

Approximate Smoke Volume

Item #10-030	-	4,000 cu. ft. /	113 m ³
Item #10-060	-	8,000 cu. ft. /	227 m ³
Item #10-180	-	40,000 cu. ft. /	1133 m ³
Item #10-182	-	40,000 cu. ft. /	1133 m ³
Item #10-200	-	110,000 cu. ft. /	3115 m ³
Item #10-210	-	120,000 cu. ft. /	3399 m ³

Physical Data (Smoke)

Boiling Point:	N/A
Vapor Pressure:	N/A
Vapor Density:	N/A
Solubility In Water:	Soluble
pH:	No Data

Particle Size (Smoke)

Varies from 10⁻⁴ cm to 10⁻⁶ cm in diameter. However, size distribution does not conform to the normal "bell-shaped" curve due to the smoke being a mist rather than solids suspended in air.

Reactivity Data (Solid Product)

Stability: Stable under normal conditions
Hazardous Polymerization: None known

This product and safety information sheet is provided as a guideline for the use of our products only. Contact E. Vernon Hill, Inc. for a material safety data sheet (MSDS.)

We believe all information given is accurate. It is offered in good faith, but without guarantee. Since conditions of product use are beyond our control, all risks of use are assumed by the user. E. Vernon Hill, Inc. disclaims responsibility for

damage or injury resulting from the improper use of these products. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license under valid patents.

Ref. S.S. "SD/1A & SD/2A 2/1/93"