



# Material Safety Data Sheet –

## 1. Identification of substances

- 1.1 Trade Name:** Snow stick sometimes referred to snow candle  
**1.2 Supplier:** Snow Business International Ltd, The Snow Mill, Ebley, Stroud,  
Glos GL5 4TR, United Kingdom.  
**1.3 Contact:** Symon Doliczny  
**1.4 Telephone:** +44 (0) 1453 840088  
**1.5 Applications** To simulate falling snow
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## 2. Hazard identification

Haxaed classification	Handling	R10
	Highly Flammable	R11
	Harmful by inhalation	R20
	Contact with skin	R21
	Swallowed	R22

Harmful effects of substances Fatal by inhalation, Toxic by ingestion, or skin absorption. Causes eye and skin irritation, material is irritating to mucous membranes and upper respiratory tract. Ingestion may cause severe abdominal pain, diarrhoea, nausea, vomiting, abrupt rise in body temperature, convulsions and coma.

To the best of our knowledge, the physical and toxicological properties have not been thoroughly Investigated.

OES/MEL/Etc	Toxicity Data LD50 600 Mg / Kg Dog 630 Mg / Kg Rat
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Acceptable daily dose	0.025 mg per kg of body weight i.e 2mg per day for an average person.
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Intermediate products	Products of combustion or decomposition, include toxic fumes of carbon monoxide and carbon dioxide.
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### Snow Business

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Pregnant or nursing mothers      Metaldehyde. The chemical contained in SnowSticks is not listed in FH40/96 as having a risk likely to cause heritable genetic damage, birth defects or cancer.

### 3.      **Work activity detail**

When falling snow is required on location, the SnowStick is held in a gloved hand, or placed into a steel 'bucket', or into a SnowStick holder. It is lit like a conventional candle / firework and the resulting emission which continues until the chemical reaction is complete, is like that of a white ash or flock until the chemical is exhausted.

### 4.      **Sources of exposure**

Storage and issue                      The SnowStick is only taken when required on location, and in quantities that are likely to be used up avoiding the necessity of having to store surplus materials.

Disposal                                      Disposal is not normally required; stock is only drawn as it is used. Damaged or suspect stock is disposed by incineration in a safe area after all production crew have dispersed.

### 5.      **Use / Handling of substances**

SnowSticks are designed for outdoor use by trained special effects personnel only. Under no circumstances should a SnowStick be supplied to a member of the general public or to anyone who is not known to be competent to use it.

Provisionally aim to use one device every 1minute in open areas. This will vary according to the volume of snow required and wind conditions.

Before you start have ready

- Gloves and SnowStick holder (or metal 'bucket') to hold the lit device
  - Masks and goggles must be worn.
  - Bucket of water to extinguish burning SnowSticks if necessary
  - Fire blanket and fire fighting equipment available adjacent to work area.
  - First aid kit with eyewash station in a suitable accessible place.
  - If you are working above people and hand holding the SnowStick in a gloved hand, put a strip of gaffer tape down the length of the device so that if the stick breaks a hot tip cannot drop onto heads or to where a person can try to pick it up. The lit end is very hot and will burn flesh.
- When the falling snow effect is required
- Put on the appropriate safety equipment
  - Light the open end of the device so that it glows and smoulders. Only light the device at the very tip, a single glowing ember on the tip is enough to do the job, be patient and wait.
  - For about 20 seconds the device will do nothing but give off smoke. If the device flares (flames) blow it out. They can sometimes flare up to three times, just blow it out – it will settle down.

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- After about 20 seconds a white flotsam will be given off for a duration of about 50 to 75 seconds. The size of this flotsam depends upon the speed of air passing it, try and keep the airflow or rate of movement constant. Do not flick the device from side to side as this simply throws the innards out making it useless. When out of doors place the device into an empty metal bucket, as you walk swing the bucket gently and it has the effect of snow rising and floating out of the bucket, this is particularly useful in windy conditions as it allows decent size flakes to form in the shelter of the bucket.
- The SnowStick burns down to about 2 inches from the end. When expired, if hand held, dispose of safely as a hot object.

**Note**

- Always transport SnowSticks packed laid flat. This will avoid vibrating all the active ingredients to one end of the device and will keep a more consistent effect when in use.
- If out of doors on dry grass, dry woodland or similar areas of fire risk, treat the hot ends of expired devices as a fire risk, use sand buckets for safe disposal after use.
- The ash breaks up in the wind as it makes contact with the ground or hard objects leaving no visible litter. The 'invisible' remnants biodegrade fully in a few days and leave no residue in water.
- Do not use indoors

## 6. Existing control measures

Ventilation	SnowSticks are designed for use only in the open. Do not use indoors
Personal protective equipment	Heat resistant gloves are recommended. A Martindale mask and protective goggles should always be worn.
Other control measures	No smoking, eating or drinking is allowed in the work area. Keep containers closed when not in use. Kit for location work must include all necessary personal protective equipment plus the basic essentials for dealing with an emergency. i.e. Fire blanket or extinguisher, clean water for eye irrigation and First Aid Kit.

## 7. Existing monitoring arrangements

Workplace monitoring	The Crew Chief in charge of effects is ultimately responsible for the health and safety of everyone concerned. The Crew Chief's judgement of any given situation with regard to safety will determine whether or not an effect can be used.
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**8. Welfare and hygiene**

Welfare and hygiene provisions

First Aid Kit for use on location should contain an eye bath and a fresh supply of eye wash solution.

Special training    The handling of SnowSticks is strictly limited to those technicians qualified to do so. Qualifications are obtained through specialist training and examinations. Health and safety training is included in the specialist training.

**9. Emergency procedures**

Spillage    SnowSticks are cased units therefore the problem of spillage is not an issue, loose chemicals such as Metaldehyde can be swept up and returned to the bulk of the same chemical or if it is contaminated can be destroyed as disposal, see section 4.

**10. First Aid**

Skin Contact:    Wash thoroughly with soap and cold water.

Eye Contact:    Irrigate with copious amounts of cold water for 15 minutes, seek medical advice if irritation persists.

Inhalation:    Remove to an area not affected by the path of smoke and/or debris particles, seek medical assistance immediately.

Ingestion:    Wash out mouth with water, do not induce vomiting, seek medical help immediately.

**11. Fire**

If a fire develops in the area of storage or the vehicle carrying SnowSticks, evacuate the area and warn fire fighters of the presence of Metaldehyde.

**12. Storage**

SnowSticks should be stored in a cool dry place (below 40°C) as 'Flammable Solids'.

Metaldehyde begins to decompose slowly at 50°C degrees and fairly rapidly at 60°C.

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### 13. Other considerations

Substitute substances                      None: - The continued use of this substance, as described in this assessment is necessary.

Degradation in soil                      100% in a few days

Water sediment                      nil

#### Note

Metaldehyde is the active ingredient of slug bait or pellets and various liquid formations which are used in large quantities in many parts of the world, both commercially and domestically, to control damage to vegetables, fruit and flowers in fields and gardens. It is also used as fuel for camping stoves. Upon heating above 80 deg C it breaks down into Acetaldehyde a naturally occurring chemical in some food stuffs such as bread and ripe fruit. It is formed naturally in the body as a result of the metabolization of alcohol.

### 14. Transport Information

UN Number	1332
UN proper shipping name	Metaldehyde (in powder form)
Transport hazard class	4.1
Packing group	111

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**Compilation date**                      17/07/2015

**Approved**                      S Doliczny

#### Review date

The statements in this bulletin were made to the best of our knowledge and are as accurate as possible. They are given for information only. They do not constitute a contractual guarantee of a product's properties. They must neither be altered nor transferred to other products.

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		COSHH Risk Assessment		Snow Candle			
Describe the activity or work process.		Pyrotechnic device that simulate falling snow effect. Duration of candle approx. 90 seconds after initiated. Typically 2-3 candles used per take – placed in various locations to allow dilution of ‘snow’ Operator can use 10 – 300 per day. Candles work by the sublimation of Metaldehyde. The most recent SDS on record refers to CHIP.					
Location of process being carried out?		Exterior Locations Only					
Identify the persons at risk:		Employees <i>(including trainees)</i> <input checked="" type="checkbox"/>	Artists / Contractors / Crew <input checked="" type="checkbox"/>	Public <input type="checkbox"/>			
Name the substance involved in the process and its manufacturer.		Chemical composition: Metaldehyde (98%) Manufacturer: Snow Business					
Personal Protective Equipment <i>(state type and standard)</i>							
 <input type="checkbox"/> Dust mask			 <input type="checkbox"/> Visor				
 <input checked="" type="checkbox"/> Respirator	Wear suitable organic filter mask with P3 partial filter.		 <input checked="" type="checkbox"/> Goggles	Goggles for handling of all pyrotechnics.			
 <input checked="" type="checkbox"/> Gloves	Nitrile Gloves EN 374 compliant.		 <input checked="" type="checkbox"/> Overalls	Skin protection may be required based on use.			
 <input type="checkbox"/> Footwear			 <input type="checkbox"/> Other				
Hazard Type							
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Gas	Vapour	Mist	Fume	Dust	Liquid	Solid	Other (State) .....
Route of Exposure							
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Inhalation	Skin	Eyes	Ingestion	Other	(State) .....		
Workplace Exposure Limits (WELs) <i>please indicate n/a where not applicable</i>							
Long-term exposure level (8hrTWA):  <b>Acetaldehyde: 37mg/m3 (metaldehyde is a cyclic polymer of acetaldehyde)</b>  <b>Formaldehyde: 37/m3</b>				Short-term exposure level (15 mins):  <b>Acetaldehyde: 92 mg/m3 (metaldehyde is a cyclic polymer of acetaldehyde)</b>  <b>Formaldehyde: 56/m3</b>			

<b>State the Risks to Health from Identified Hazards</b>			
<p>May be harmful by inhalation, ingestion and skin absorption</p> <p>Causes eye and skin irritation – material is irritating to mucous membranes and upper respiratory tract</p> <p>Ingestion of large quantities of metaldehyde may cause severe abdominal pain, diarrhoea, nausea, vomiting, abrupt rise in body temperature, convulsions and coma</p> <p>Combustion products include CO and CO<sub>2</sub></p> <p>Acceptable daily dose: 0.025mg per kg of body weight – approx. 2mg per day for an average person</p>			
<b>Control Measures:</b> <i>(for example extraction, ventilation, training, supervision). Include special measures for vulnerable groups, such as disabled people and pregnant workers. Take account of those substances that are produced from activities undertaken by another employer's employees.</i>			
<p>Trained competent persons to use snow candles only. A designated area should be enforced where ignition of the candles is being carried out.</p> <p>Snow candles must be used outdoors only.</p> <p>Do not breathe fume. If ventilation is inadequate, use a respirator with an organic vapour cartridge and P3 particulate.</p> <p>Safety specs should be worn when handling pyrotechnic materials.</p> <p>Candle will remain hot after use and outer surface will be contaminated with residue. Wear suitable heat resistant gloves during disposal.</p> <p>When using snow candles, persons other than the operator (Artists, Crew etc) should be at least 3m away from the source of combustion where concentrations are highest. Dispersal in air will greatly dilute concentrations for allowing use.</p> <p>No smoking, eating or drinking is allowed in the work area. After use, the operator should wash hands.</p> <p>A fire blanket or CO<sub>2</sub> extinguisher should be present in the work area. Eye wash and first aid kit should also be available</p>			
Is health surveillance or monitoring required? <div style="float: right; text-align: right;">           Yes <input type="checkbox"/>                          No <input checked="" type="checkbox"/> </div>			
<b>Personal Protective Equipment</b> <i>(state type and standard)</i>			
 <input type="checkbox"/> Dust mask		 <input type="checkbox"/> Visor	
 <input checked="" type="checkbox"/> Respirator	Wear suitable organic filter mask with PE filter if exposed to the fumes	 <input checked="" type="checkbox"/> Goggles	Goggles for handling candles
 <input checked="" type="checkbox"/> Gloves	Heat resistant gloves	 <input checked="" type="checkbox"/> Overalls	Skin protection may be required based on use.
 <input type="checkbox"/> Footwear		 <input type="checkbox"/> Other	
<b>First Aid Measures</b>			
<p><b>Skin Contact:</b> Wash thoroughly with soap and cold water.</p> <p><b>Eye Contact:</b> Irrigate with copious amounts of cold water for 15 minutes, seek medical advice if irritation persists.</p> <p><b>Inhalation:</b> Remove to an area not affected by the path of smoke and/or debris particles, seek medical assistance if breathing is irregular or difficult.</p> <p><b>Ingestion:</b> Wash out mouth with water, do not induce vomiting, seek medical help.</p>			
<b>Storage</b>			

SnowSticks should be stored in a cool dry place (below 40°C) as 'Flammable Solids'.  
Metaldehyde begins to decompose slowly at 50°C degrees and rapidly at 60°C.

**Disposal of Substances & Contaminated Containers**

Hazardous Waste ☐ Skip ☐ Return to Depot ☐ Return to Supplier ☐ Other ☒

(If Other Please State): Disposal by controlled incineration

Is exposure adequately controlled?

Yes



No



**Risk Rating Following Control Measures**

High



Medium



Low



**Assessed By: Dan Scott**

**Date: 03/10/2024**