

SAFETY DATA SHEET

1. Product and Company Identification

Day and Night, Smoke and Light N. 2

Use: Distress Signal

CIL / Orion

Phone Number: 450-566-0655

533 Argenteuil

LACHUTE, Quebec Canada J8H3Y2

EMERGENCY 613-996-6666

2. Hazards Identification

Emergency Overview



Danger

GHS Classifications

Explosive	Division 1.4
Acute Toxicity	Category 4
Skin Corrosion / Irritation	Product- Category 1A Contents - Category 2
Serious Eye Damage / Irritation	Product-Category 1 Contents - Category 2B
Respiratory or Skin Sensitization	Contents - Category 1
STOT - Repeated Exposure	Contents - Category 2
Aquatic Hazard (Acute/Chronic)	Category 1

Hazard Statements:

Fire or projection hazard
Harmful if swallowed
Very toxic to aquatic life with long lasting effects
Burning flare causes severe skin burns and eye damage
Contents cause skin and eye irritation
May cause allergic reaction to individuals sensitive to milk proteins
May cause damage to thyroid through ingestion of contents after prolonged or repeated exposure

NFPA Rating

Flammability 2
Health 2
Reactivity 1

Precautionary Statements:

Keep out of reach of children.
Keep away from heat/sparks/open flames/hot surfaces. – no smoking.
Keep/Store away from combustible materials.
Use only non-sparking tools
Avoid breathing dust/smoke
Do not ignite inside a building, vehicle or boat cabin.
Do not dismantle.
Allow signal to burn to completion.
Avoid release to the environment.(contents)
Use personal protective equipment as required.
In case of fire: use water deluge. Do not use dry powder or foam extinguishers!

HMIS Rating

Flammability 1
Health 3
Physical Hazard 1

3. Composition / Information on Ingredients

Component	CAS #	EINCS #	%age
1-Amino-Anthraquinone	82-45-1	201-423-5	20-40%
Magnesium	7439-95-4	231-104-6	10-30%
Strontium Nitrate	10042-76-9	233-131-9	10-30%
Potassium Chlorate	3811-04-9	231-100-4	1-20%
Potassium Perchlorate	7778-74-7	231-912-9	1-20%
Lactose	63-42-3	238-691-8	1-20%
Polyvinyl Chloride	9002-86-2	200-831-0	1-20%

4. First Aid Measures

Inhalation	If fumes from ignition or contents are inhaled, remove to fresh air. If not breathing, give artificial respiration and get medical aid.
Skin	For burns, cool with water and bandage appropriately. If contents are contacted, wash with area with soap and water for 15 minutes. Remove contaminated clothing and wash before reuse. Get medical aid if burned or irritation occurs.
Eyes	If burned, cover eye and get medical help immediately. If contents get into eye, flush with plenty of water for at least 15 minutes, occasionally lifting the up and lower lids. Remove contact lenses if easily possible Get medical aid immediately.
Ingestion	Get medical aid immediately.

5. Firefighting Measures

Extinguishing Media	Water deluge	Unsuitable Extinguishing Media	Foam and dry chemical extinguishers and suffocation are ineffective.
Protective Equipment and Precautions for Firefighters	Use NIOSH/MSHA approved self-contained breathing apparatus when this material is involved in a fire. If a large number of signals are involved in a fire, explosion is possible.		
Specific Hazards Arising from the Chemical	Flame and sparks and dense smoke are ejected out the open ends of the flare when it functions. Use copious amounts of water to extinguish fire. Using small quantities of water on contents can cause auto / re-ignition as contents contain magnesium. Use of water on a magnesium fire will generate hydrogen gas that may cause an explosion		
Flashpoint	Not Applicable	Flammability Limits	Not Applicable
		Ignition Temperature	>400°F



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6. Accidental Release Measures

Personal Precautions

Do not breathe contents and avoid contact with skin and eyes. If significant amounts of dust are present, wear chemical safety goggles, Viton or Norfoil gloves, clothing designed to prevent or minimize skin contact and a NIOSH/MSHA approved dust respirator. Keep away from ignition sources.

Environmental Precautions

Prevent dispersion of contents on soil and in water. Prevent contents from spreading or entering into drains, ditches, groundwater or rivers by using appropriate barriers.

Methods for Containment and Clean-up

Be sure all ignition sources are removed before beginning the cleaning operation. Use caution when cleaning up spilled product contents. Use non-static forming broom and dust pan to clean up dust. Undamaged signals may be picked up and put back into their original shipping containers or containers approved by local, state and federal authorities. Pick up spill for recovery or disposal and place in an approved container.

7. Handling and Storage

Handling

Keep out of reach of children. Do not dismantle. Do not allow contents to touch eyes, skin or clothing. Flush skin areas contacted with large amount of water. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not ingest contents. Avoid inhalation of smoke. Signals should be allowed to burn to completion. Unburned and partially burned signals contain potassium perchlorate which should not be allowed to come into contact with surface and ground water. Perchlorate Material - special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate.

Storage

Store in a cool, dry place away from all sources of ignition.

8. Exposure Controls / Personal Protection

Table with 3 columns: Exposure Limits, OSHA PEL, ACGIH TLV. Rows include 1-Amino-Anthraquinone, Magnesium, Strontium Nitrate, Potassium Perchlorate, Potassium Chlorate, Lactose, Polyvinyl Chloride.

Engineering Controls Eye / Face Protection

Use product outdoors only! When cleaning up powder, use local and/or general exhaust. No protective equipment is required unless signals have broken open. For cleanup, wear NIOSH approved goggles to protect from dust.

Skin Protection

None under normal conditions when using product. For cleanup, wear NIOSH approved gloves to protect from dust.

Respiratory Protection

None under normal conditions when using product. For cleanup, wear NIOSH approved respirator to protect from dust.

General Hygiene

Use product outdoors away from combustible products.

9. Physical and Chemical Properties

Table with 3 columns: Appearance (colour, physical form, shape), pH, Boiling Point, Vapour Pressure, Melting Point, Freezing Point, Specific Gravity, Solubility, Evaporation Rate, Vapour Density.

10. Stability and Reactivity

Chemical Stability Stable Possibility of Hazardous Reactions Hazardous polymerization will not occur.

Conditions to Avoid

Excessive temperatures, moisture, water, and ignition sources..

Incompatible Materials

Avoid exposure to oxidizers, strong acids and strong bases.

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide, Sulfur oxide.

11. Toxicology Information

Table with 4 columns: Toxicology, Oral LD50, skin LD50, LC50. Rows include 1-Amino-Anthraquinone, Magnesium, Strontium Nitrate, Potassium Perchlorate, Potassium Chlorate, Lactose, Polyvinyl Chloride.

Acute Dose Effects

Can cause skin, eye and mucous membrane irritation; dermatitis and nausea. Contains traces of milk protein: inhalation of dust may lead to sensitization in some allergic individuals. Contact of contents with skin may cause possible burns, especially if skin is wet or moist, due to the potassium chlorate.

Repeated Dose Effects

Potassium chlorate may cause methemoglobinemia, cyanosis, convulsions, tachycardia, dyspnoea, and death..



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Irritation	Contents can cause skin, eye and mucous membrane irritation or dermatitis. Inhalation will cause irritation to the lungs and mucus membrane.	Corrosivity	Contact with burning product will cause burns to eyes and skin. Contact with potassium chlorate in contents with skin may cause burns, especially if skin is wet or moist,
Carcinogenicity	None of the ingredients are suspect to be a carcinogen.	Reproductive Effects	No information found
Genetic Effects	No information found	Neurological Effects	No information found
Developmental Effects	Perchlorate exposure at certain levels can disrupt the function of the thyroid gland by interfering with the iodide uptake and thyroid hormone production. This interference may lead to developmental defects. Scientists consider pregnant women, children, infants, and individuals with thyroid disorders to be the populations most at risk of harm from being exposed to perchlorate.	Sensitization	Contains traces of milk protein: inhalation of dust may lead to sensitization in some allergic individuals

Target Organ Effects Eye, skin, liver, kidney, and thyroid.

12. Ecological Information

Aquatic Toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environmental Media
<u>1-Aminoanthraquinone</u> : Fish: 48h LC50:>30 mg/L (<i>Oryzias latipes</i>); EC50 - <i>Daphnia magna</i> (Water flea) - > 82.3 mg/l - 48 h - Toxic to aquatic life.	1-Aminoanthraquinone: 0 % (by BOD), 2 % (by HPLC)	1-Aminoanthraquinone: 50 - 150 (conc. 30 ug/L), 55 - 137 (conc. 3 ug/L)	Strontium Nitrate: Water:: considerable solubility and mobility; Soil/sediments non-significant adsorption
<u>Magnesium</u> : Fishes <i>Pimephales promelas</i> LC50(98hr) 541 mg/L; Fishes, <i>Daphnia magna</i> , LC50(48hr) 140 mg/L			
<u>Strontium Nitrate</u> : Acute toxicity - Fishes, <i>Carassius auratus</i> , LC100, 9,615 mg/l; Chronic toxicity - Fishes, <i>Gasterosteus aculeatus</i> , LC100, 2,912 mg/l			
<u>Potassium Chlorate</u> : fish: LC50 <i>oncorhynchus mykiss</i> (rainbow trout) 1750 mg/l - 96 hr, EC50 <i>daphnia magna</i> (water flea) 1093 mg/l 24 hr			

13. Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.. Refer to California Code of Regulations, Title 33, Sections 67384.1-67384.10 for additional information on handling and disposal of potassium perchlorate containing materials.

14. Transportation Information

Shipping Name	Hazard Class	ID Number	Packing Group	EX Number	Reportable Quantities	Net Explosive Quantity
Signal Devices, Hand	1.4G	UN0191	II	EX-2011021134	none	0.06 kg/unit

15. Regulatory Information

US Regulations	TSCA	CERCLA	CWA	CAA	SARA 313	SARA 302	Acute	Chronic	Fire	Reactivity	Pressure
1-Amino-Anthraquinone	yes	no	no	no	no	no	no	no	no	no	no
Magnesium	8(b)	no	no	no	no	no	no	yes	yes	no	no
Strontium Nitrate	yes	no	no	no	no	no	yes	no	no	yes	no
Potassium Perchlorate	yes	no	no	no	no	no	yes	yes	no	yes	no
Potassium Chlorate	yes	no	no	no	no	no	yes	yes	no	yes	no
Lactose	yes	no	no	no	no	no	no	no	no	no	no
Polyvinyl Chloride	yes	no	no	no	no	no	yes	no	no	no	no

US States	Prop 65	NJ	PA	Canada	WHMIS	DSL	Europe	wgk
1-Amino-Anthraquinone	no	no	no		D2B - toxic	yes		1
Magnesium	no	1136	yes		No results	yes		nwg
Strontium Nitrate	no	1743	no		No results	yes		2
Potassium Perchlorate	no	1577	no		C - Oxidizing material	yes		1
Potassium Chlorate	no	1560	no		No results	yes		2
Lactose	no	no	no		No results	yes		not listed
Polyvinyl Chloride	no	3622	no		No results	yes		not listed



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16. Other Information

Revision Information: May, 2014

Risk and Safety Phrases:

R10 Flammable
R38, Irritating to skin
R20 Harmful by inhalation.
R21 Harmful in contact with skin.
R22 Harmful if swallowed.
R34 Causes burns
R36 Irritating to eyes.
R37 Irritating to respiratory system.
S17 Keep away from combustible material
S16 Keep away from sources of ignition
S2 Keep out of the reach of children.

S8 Keep container dry.
S13 Keep away from food, drink and animal foodstuffs.
S24 Avoid contact with skin.
S25 Avoid contact with eyes.
S29 Do not empty into drains.
S41, In case of fire and / or explosion do not breathe fumes
S43 In case of fire use water
S51 Use only in well ventilated areas

Key / Legend:

HMIS: hazardous material identification system
NFPA: national fire protection association
CAS: Chemical Abstracts Service number
EINECS: European inventory of existing chemical substances
OSHA PEL: occupational safety and health administration permissible exposure limit
NIOSH TLV: national institute of occupational safety and health Threshold Limit Value
NTP: National Toxicology Program
IARC: International Agency for Research on Cancer

TSCA: toxic substance control act - US
CERCLA: comprehensive environmental response, compensation and liability act - US
CWA: clean water act - US
CAA: clean air act - US
SARA: superfund amendments and reauthorization act - US
PROP 65: California's Proposition 65 list
WHMIS: workplace hazardous materials information system - Canada
DSL: Domestic Substances List - Canada
WGK: water hazard classes - Germany

Legal Statement:

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