Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date July 13, 2015 Reviewed on July 13, 2015

1 Identification

· **Product identifier**

· **Trade name: Tri-Chamber Flameless CS Grenade**

· **Article number:** 1032 (1012473)

· **Recommended use and restriction on use**
· **Recommended use:** Crowd Control Device
· **Restrictions on use:** Contact manufacturer.

· **Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
Safariland, LLC
13386 International Parkway
Jacksonville, FL 32218
Customer Care (800) 347-1200

· **Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

2 Hazard(s) identification

· **Classification of the substance or mixture**


GHS02 Flame

Flam. Sol. 1 H228 Flammable solid.


GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.
Acute Tox. 3 H331 Toxic if inhaled.


GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.


GHS07

Acute Tox. 4 H312 Harmful in contact with skin.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

· **Additional information:**
There are no other hazards not otherwise classified that have been identified.
0 percent of the mixture consists of ingredient(s) of unknown toxicity.

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· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS06 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
[(2-chlorophenyl)methylene]malononitrile
potassium chlorate
diphenylamine
potassium perchlorate
· **Hazard statements**

H228	Flammable solid.
H301+H331	Toxic if swallowed or if inhaled.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.

· **Precautionary statements**

P210	Keep away from heat, sparks, open flames, and hot surfaces. - No smoking.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P284	Wear respiratory protection.
P264	Wash thoroughly after handling.
P280	Wear protective gloves / eye protection / face protection.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P301+P310	If swallowed: Immediately call a poison center/doctor.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P320	Specific treatment is urgent (see on this label).
P342+P311	If experiencing respiratory symptoms: Call a poison center/doctor.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P330	Rinse mouth.
P370+P378	In case of fire: Use for extinction: CO2, powder or water spray.
P302+P352	If on skin: Wash with plenty of water.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

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· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 4
Fire = 0
Reactivity = 4

The substance possesses oxidizing properties.

· **HMIS-ratings (scale 0 - 4)**

Health = *3
Fire = 0
Reactivity = 4

* - Indicates a long term health hazard from repeated or prolonged exposures.
· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:**
Product will contain various combinations of the following substances. Not all substances will be in each product. .
Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

2698-41-1	[(2-chlorophenyl)methylene]malononitrile Acute Tox. 3, H301; Acute Tox. 2, H330 Resp. Sens. 1, H334 Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	
9004-70-0	Nitrocellulose, colloided, granular Expl. 1.1, H201	
3811-04-9	potassium chlorate Ox. Sol. 1, H271 Acute Tox. 4, H302; Acute Tox. 4, H332	
57-50-1	sucrose, pure	
598-62-9	manganese carbonate	
7757-79-1	potassium nitrate Ox. Sol. 2, H272	
7440-50-8	copper	
1309-48-4	magnesium oxide	
7440-66-6	zinc metal	

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7778-74-7	potassium perchlorate Ox. Sol. 1, H271 Acute Tox. 4, H302	
7704-34-9	sulfur Skin Irrit. 2, H315	
592-87-0	lead dithiocyanate Carc. 1B, H350; Repr. 1A, H360; STOT RE 2, H373 Acute Tox. 4, H302; Acute Tox. 4, H332	
122-39-4	diphenylamine Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 STOT RE 2, H373	
557-04-0	magnesium distearate, pure	
10294-40-3	barium chromate Carc. 1A, H350 Acute Tox. 4, H302; Acute Tox. 4, H332	
69012-64-2	Silica-Amorphous Silica fume	≤ 2.5%
1317-61-9	triiron tetraoxide	
7440-21-3	silicon Flam. Sol. 2, H228	
7429-90-5	aluminium powder (pyrophoric) Pyr. Sol. 1, H250; Water-react. 2, H261	
16291-96-6	charcoal	

· **Additional information:**
For the listed ingredient(s), the identity and exact percentage(s) are being withheld as a trade secret.

· **Notable Trace Components (≤ 0,1% w/w)**		
7758-97-6	lead chromate	Carc. 1B, H350; Repr. 1A, H360; STOT RE 2, H373

4 First-aid measures

· **Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation:**
Supply fresh air.
Seek immediate medical advice.
In case of irregular breathing or respiratory arrest provide artificial respiration.
Provide oxygen treatment if affected person has difficulty breathing.
· **After skin contact:**
Immediately rinse with water.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Protect unharmed eye.
Remove contact lenses if worn.

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Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:**
Unlikely route of exposure.
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed**
Asthma attacks
Blast injury if mishandled.
Dizziness
Irritant to eyes.
Irritant to skin and mucous membranes.
Breathing difficulty
Coughing
Allergic reactions
Disorientation
· **Danger**
Danger of blast or crush-type injuries.
Danger of pulmonary edema.
Danger of disturbed cardiac rhythm.
Danger of convulsion.
Danger of impaired breathing.
Danger of cerebral edema.
· **Indication of any immediate medical attention and special treatment needed**
Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.
If necessary oxygen respiration treatment.
Contains lead chromate.
Later observation for pneumonia and pulmonary edema.
Product may produce physical injury if mishandled. Treatment of these injuries should be based on the blast and compression effects.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
DO NOT fight fire when fire reaches explosives.
Flood area with water. If no water is available, carbon dioxide, dry chemical or earth may be used. If the fire reaches the cargo, withdraw and let fire burn.
· **For safety reasons unsuitable extinguishing agents:** None.
· **Special hazards arising from the substance or mixture**
Product may explode if burned in confined space. Individual cartridges may explode. Mass explosion of many cartridges at once is unlikely.
Hazardous combustions products: Metal Compounds, Carbon Monoxide, Carbon Dioxide, Nitrous Oxides, Various complex oxides of metals, Nitrogen.
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

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· **Additional information**
Evacuate area and fight fire from from the upwind side.
Cool endangered receptacles with water spray.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Use respiratory protective device against the effects of fumes/dust/aerosol.
Isolate area and prevent access.
Keep people at a distance and stay upwind.
Wear protective equipment. Keep unprotected persons away.
Remove persons from danger area.
Ensure adequate ventilation.
Protect from heat.
Keep away from ignition sources.
· **Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Suppress gases/fumes/haze with water spray.
· **Methods and material for containment and cleaning up:**
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.
Dispose contaminated material as waste according to item 13.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Handle with care. Avoid jolting, friction and impact.
Keep away from heat and direct sunlight.
Use only in well ventilated areas.
· **Information about protection against explosions and fires:**
Prevent impact and friction.
Keep respiratory protective device available.
Emergency cooling must be available in case of nearby fire.
Protect from heat.
Keep ignition sources away - Do not smoke.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Provide ventilation for receptacles.
Avoid storage near extreme heat, ignition sources or open flame.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.

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Store away from flammable substances.
Do not store together with oxidizing and acidic materials.
Store away from water.
· **Further information about storage conditions:**
Protect from heat and direct sunlight.
Store in dry conditions.
Store receptacle in a well ventilated area.
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
2698-41-1 [(2-chlorophenyl)methylene]malononitrile	
PEL (USA)	Long-term value: 0.4 mg/m³, 0.05 ppm
REL (USA)	Ceiling limit value: 0.4 mg/m³, 0.05 ppm Skin
TLV (USA)	Ceiling limit value: 0.39 mg/m³, 0.05 ppm Skin
EL (Canada)	Ceiling limit value: 0.05 ppm Skin
EV (Canada)	Ceiling limit value: 0.4 mg/m³, 0.05 ppm Skin
LMPE (Mexico)	Ceiling limit value: 0.05 ppm A4, PIEL
57-50-1 sucrose, pure	
PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	Long-term value: 10 mg/m³
EL (Canada)	Long-term value: 10* 3** mg/m³ *total dust;**respirable fraction
EV (Canada)	Long-term value: 10 mg/m³ total dust
LMPE (Mexico)	Long-term value: 10 mg/m³ A4
598-62-9 manganese carbonate	
PEL (USA)	Ceiling limit value: 5 mg/m³ as Mn

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REL (USA)	Short-term value: 3 mg/m³ Long-term value: 1 mg/m³ as Mn
TLV (USA)	Long-term value: 0.02* 0.1* mg/m³ as Mn; *respirable **inhalable fraction
EL (Canada)	Long-term value: 0.2 mg/m³ as Mn; R
LMPE (Mexico)	Long-term value: 0.2 mg/m³ como Mn
1309-48-4 magnesium oxide	
PEL (USA)	Long-term value: 15* mg/m³ fume; *total particulate
TLV (USA)	Long-term value: 10* mg/m³ *as inhalable fraction
EL (Canada)	Short-term value: 10** mg/m³ Long-term value: 10* 3** mg/m³ *inhalable fume;**respirable dust and fume
EV (Canada)	Long-term value: 10 mg/m³ inhalable
LMPE (Mexico)	Long-term value: 10* mg/m³ A4, *fracción respirable
1309-37-1 diiron trioxide / iron (III) oxide	
PEL (USA)	Long-term value: 10* 15** 5*** mg/m³ *Fume; Rouge: **Total dust, ***respirable
REL (USA)	Long-term value: 5 mg/m³ Dust & fume, as Fe
TLV (USA)	Long-term value: 5* mg/m³ *as respirable fraction
EL (Canada)	Short-term value: 10** mg/m³ Long-term value: 5* 10*** 3**** mg/m³ *dust & fume**fume; Rouge: ***total dust****resp.
EV (Canada)	Long-term value: 5* 10** mg/m³ *respirable, including Rouge;**total dust
LMPE (Mexico)	Long-term value: 5* mg/m³ A4, *fracción respirable
7440-50-8 copper	
PEL (USA)	Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume
REL (USA)	Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume
TLV (USA)	Long-term value: 1* 0.2** mg/m³ *dusts and mists; **fume; as Cu

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EL (Canada)	Long-term value: 1* 0.2** mg/m³ *dusts and mists; **fume, as Cu
EV (Canada)	Long-term value: 0.2* 1** mg/m³ as copper, *fume;**dust and mists
LMPE (Mexico)	Long-term value: 0.2* 1** mg/m³ *humo (como Cu);**polvo y niebla (como Cu)
7440-21-3 silicon	
PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	TLV withdrawn
EL (Canada)	Long-term value: 10* 3** mg/m³ *total dust;**respirable fraction
EV (Canada)	Long-term value: 10 mg/m³ total dust
LMPE (Mexico)	Short-term value: 20 mg/m³ Long-term value: 10 mg/m³ (e)
7440-67-7 zirconium powder (pyrophoric)	
PEL (USA)	Long-term value: 5 mg/m³ as Zr
REL (USA)	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³ as Zr
TLV (USA)	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³ as Zr
EL (Canada)	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³ as Zr
EV (Canada)	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³ as zirconium
LMPE (Mexico)	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³ A4; como Zr
7429-90-5 aluminium powder (pyrophoric)	
PEL (USA)	Long-term value: 15*; 15** mg/m³ *Total dust; ** Respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ as Al*Total dust**Respirable/pyro powd./welding f.

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TLV (USA)	Long-term value: 1* mg/m³ as Al; *as respirable fraction
EL (Canada)	Long-term value: 1.0 mg/m³ respirable, as Al
EV (Canada)	Long-term value: 5 mg/m³ aluminium-containing (as aluminium)
LMPE (Mexico)	Long-term value: 1* mg/m³ A4, *fracciòn respirable
592-87-0 lead dithiocyanate	
PEL (USA)	Long-term value: 5 mg/m³ as CN; Skin
EV (Canada)	Long-term value: 0.05 mg/m³ as Pb, Skin (organic compounds)
122-39-4 diphenylamine	
REL (USA)	Long-term value: 10 mg/m³
TLV (USA)	Long-term value: 10 mg/m³
EL (Canada)	Long-term value: 10 mg/m³
EV (Canada)	Long-term value: 10 mg/m³
LMPE (Mexico)	Long-term value: 10 mg/m³ A4
557-04-0 magnesium distearate, pure	
TLV (USA)	Long-term value: 10 mg/m³
LMPE (Mexico)	Long-term value: 10 mg/m³ A4
10294-40-3 barium chromate	
PEL (USA)	Long-term value: 0.005* mg/m³ Ceiling limit value: 0.1** mg/m³ *as Cr(VI) **as CrO3; see 29 CFR 1910.1026
REL (USA)	Long-term value: 0.0002 mg/m³ as Cr; See Pocket Guide Apps. A and C
TLV (USA)	Long-term value: 0.01 mg/m³ as Cr
EL (Canada)	Long-term value: 0.01 mg/m³ as Cr; ACGIH A1, IARC 1
LMPE (Mexico)	Long-term value: 0.01 mg/m³ A1; como Cr
69012-64-2 Silica-Amorphous Silica fume	
TLV (USA)	TLV withdrawn
EL (Canada)	Long-term value: 4* 1.5** mg/m³ fume *total; **respirable
EV (Canada)	Long-term value: 2 mg/m³ respirable

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LMPE (Mexico)	Long-term value: 2 mg/m³ (j)

· **Ingredients with biological limit values:**

10294-40-3 barium chromate

BEI (USA)	25 µg/L Medium: urine Time: end of shift at end of workweek Parameter: Total chromium (fume) 10 µg/L Medium: urine Time: increase during shift Parameter: Total chromium (fume)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Avoid close or long term contact with the skin.
Avoid contact with the eyes.
Do not inhale dust / smoke / mist.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Do not inhale gases / fumes / aerosols.
· **Engineering controls:** Provide adequate ventilation.
· **Breathing equipment:**

Combined Organic Vapor and Particulate Respirator is recommended for use during all processing activities.

Wear positive pressure NIOSH or European EN149 vapor respirators when deploying product in large quantities.
Respiratory protection required.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be

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checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Safety glasses

· **Body protection:** Protective work clothing
· **Limitation and supervision of exposure into the environment**
No further relevant information available.
· **Risk management measures**
See Section 7 for additional information.
Organizational measures should be in place for all activities involving this product.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Solid material
Color:	Grey
· **Odor:**	Characteristic
· **Odor threshold:**	Not determined.
· **pH-value:**	Not applicable.
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Not determined.
· **Auto-ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not self-igniting.
· **Danger of explosion:**	Extreme risk of explosion by shock, friction, fire or other sources of ignition.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapor pressure:**	Not applicable.
· **Density:**	Not determined.
· **Relative density**	Not determined.
· **Vapour density**	Not applicable.

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· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with**
Water: Insoluble.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**
Dynamic: Not applicable.
Kinematic: Not applicable.

· **Other information** No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **Possibility of hazardous reactions**
Flammable solid.
Contact with acids releases toxic gases.
Toxic fumes may be released if heated above the decomposition point.
Can react violently with oxygen rich (oxidizing) material. Danger of Explosion.
Strong exothermic reaction with acids.
Develops toxic gases / fumes.
· **Conditions to avoid**
Keep ignition sources away - Do not smoke.
Store away from oxidizing agents.
Keep away from heat and direct sunlight.
Cartridge may detonate if case is punctured or severely damaged.
· **Incompatible materials:** Contact with acids liberates toxic gas.
· **Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Hydrocarbons
Leadoxide vapor
Bariumoxide vapor
Nitrogen oxides (NOx)
Chlorine compounds
Poisonous gases/vapors
Irritant gases/vapors

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
2698-41-1 [(2-chlorophenyl)methylene]malononitrile		
Oral	LD50	178 mg/kg (rat)

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3811-04-9 potassium chlorate		
Oral	LD50	1870 mg/kg (rat)
122-39-4 diphenylamine		
Oral	LD50	1120 mg/kg (rat)
7758-97-6 lead chromate		
Oral	LD50	12000 mg/kg (mouse)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Strong irritant with the danger of severe eye injury.
· **Additional toxicological information:** Toxic and/or corrosive effects may be delayed up to 24 hours.

· **Carcinogenic categories**

· **NTP (National Toxicology Program)**		
592-87-0	lead dithiocyanate	R
10294-40-3	barium chromate	K

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

· **Probable Routes of Exposure**
Ingestion.
Inhalation.
Eye contact.
Skin contact.
· **Acute effects (acute toxicity, irritation and corrosivity):**
Irritating to eyes, respiratory system and skin.
Harmful in contact with skin.
Toxic if swallowed or if inhaled.
May cause sensitisation by inhalation and skin contact.
· **Repeated Dose Toxicity:**
Repeated exposures may result in skin and/or respiratory sensitivity.
May cause damage to organs through prolonged or repeated exposure.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):**
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:**
Toxic for aquatic organisms
The product contains materials that are harmful to the environment.

2698-41-1 [(2-chlorophenyl)methylene]malononitrile	
EC50	0.2-0.3 mg/kg (Oncorhynchus mykiss)

· **Persistence and degradability** The product is partially biodegradable. Significant residuals remain.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** May be accumulated in organism
· **Mobility in soil** No further relevant information available.

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· **Ecotoxical effects:**
· **Remark:** Toxic for fish
· **Additional ecological information:**
· **General notes:**
This statement was deduced from the properties of the single components.
The product contains heavy metals. Avoid transfer into the environment. Specific preliminary treatments are necessary.
Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to hazardous waste disposers.
After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**
· **DOT, ADR, IMDG, IATA** UN1700
· **UN proper shipping name**
· **DOT** Tear gas candles
· **ADR** 1700 TEAR GAS CANDLES
· **IMDG, IATA** TEAR GAS CANDLES
· **Transport hazard class(es)**

· **DOT**

· **Class** 6.1 Toxic substances

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· **Label** 6.1, 4.1

· **ADR**

· **Class** 6.1 (TF3) Toxic substances
· **Label** 6.1+4.1

· **IMDG**

· **Class** 6.1 Toxic substances
· **Label** 6.1/4.1

· **IATA**

· **Class** 6.1 Toxic substances
· **Label** 6.1 (4.1)
· **Packing group**
· **DOT, ADR, IMDG, IATA** II
· **Environmental hazards:** Not applicable.
· **Special precautions for user** Warning: Toxic substances
· **Danger code (Kemler):** -
· **EMS Number:** F-A,S-G
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
· **Transport/Additional information:**

· **ADR**
· **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity
· **UN "Model Regulation":** UN1700, Tear gas candles, 6.1 (4.1), II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **United States (USA)**
· **SARA**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

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· **Section 313 (Specific toxic chemical listings):**

598-62-9	manganese carbonate
7757-79-1	potassium nitrate
7440-50-8	copper
7440-66-6	zinc metal
7429-90-5	aluminium powder (pyrophoric)

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

Contains trace quantities of substances known to the State of California to cause cancer.

592-87-0	lead dithiocyanate
10294-40-3	barium chromate
7758-97-6	lead chromate

· **Chemicals known to cause reproductive toxicity for females:**

Present in trace quantities.

10294-40-3	barium chromate
7758-97-6	lead chromate

· **Chemicals known to cause reproductive toxicity for males:**

Present in trace quantities.

10294-40-3	barium chromate
7758-97-6	lead chromate

· **Chemicals known to cause developmental toxicity:**

Present in trace quantities.

10294-40-3	barium chromate
7758-97-6	lead chromate

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

598-62-9	manganese carbonate	D
7440-50-8	copper	D
7440-66-6	zinc metal	D, I, II
7778-74-7	potassium perchlorate	NL
10294-40-3	barium chromate	A(inh), D(oral), K/L(inh), CBD(oral)

· **IARC (International Agency for Research on Cancer)**

1309-37-1	diiron trioxide / iron (III) oxide	3
10294-40-3	barium chromate	1
69012-64-2	Silica-Amorphous Silica fume	3

· **TLV (Threshold Limit Value established by ACGIH)**

2698-41-1	[(2-chlorophenyl)methylene]malononitrile	A4
57-50-1	sucrose, pure	A4

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1309-48-4	magnesium oxide	A4
1309-37-1	diiron trioxide / iron (III) oxide	A4
7440-67-7	zirconium powder (pyrophoric)	A4
7429-90-5	aluminium powder (pyrophoric)	A4
122-39-4	diphenylamine	A4
10294-40-3	barium chromate	A1

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

10294-40-3	barium chromate

· **State Right to Know Listings**

None of the ingredients is listed.

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

9004-70-0	Nitrocellulose, colloided, granular
3811-04-9	potassium chlorate
57-50-1	sucrose, pure
598-62-9	manganese carbonate
7757-79-1	potassium nitrate
1309-48-4	magnesium oxide
1309-37-1	diiron trioxide / iron (III) oxide
7440-50-8	copper
7440-32-6	titanium
1317-61-9	triiron tetraoxide
7440-66-6	zinc metal
7440-21-3	silicon
7440-67-7	zirconium powder (pyrophoric)
7429-90-5	aluminium powder (pyrophoric)
7440-44-0	carbon

· **Canadian Ingredient Disclosure list (limit 0.1%)**

598-62-9	manganese carbonate
122-39-4	diphenylamine
10294-40-3	barium chromate

· **Canadian Ingredient Disclosure list (limit 1%)**

2698-41-1	[(2-chlorophenyl)methylene]malononitrile
1309-48-4	magnesium oxide
1309-37-1	diiron trioxide / iron (III) oxide
7440-50-8	copper
7429-90-5	aluminium powder (pyrophoric)

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· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** July 13, 2015 / -

· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Expl. 1.1: Explosives, Division 1.1
Flam. Sol. 1: Flammable solids, Hazard Category 1
Flam. Sol. 2: Flammable solids, Hazard Category 2
Pyr. Sol. 1: Pyorphoric Solids, Hazard Category 1
Water-react. 2: Substances and Mixtures which, in contact with water, emit flammable gases, Hazard Category 2

Ox. Sol. 1: Oxidising Solids, Hazard Category 1
Ox. Sol. 2: Oxidising Solids, Hazard Category 2
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
Acute Tox. 2: Acute toxicity, Hazard Category 2
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Carc. 1A: Carcinogenicity, Hazard Category 1A
Carc. 1B: Carcinogenicity, Hazard Category 1B
Repr. 1A: Reproductive toxicity, Hazard Category 1A
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

· **Sources**
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