

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name: Instantaneous Blast CS Grenade**
- **Article number:** 1042 (1012496)
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Crowd Control Device
- **Uses advised against** Contact manufacturer.
- **1.3 Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
Safariland, LLC
13386 International Parkway
Jacksonville, FL 32218
Customer Care (800) 347-1200
- **1.4 Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585



SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Classifications listed are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200).
Hazard Statement H412 is not applicable to the OSHA US regulations.



exploding bomb

Expl. 1.4 H204 Fire or projection hazard.



skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



health hazard

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



Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Skin Irrit. 2 H315 Causes skin irritation.

(Cont'd. on page 2)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 1)

Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· **Additional information:**

There are no other hazards not otherwise classified that have been identified.
0 % of the mixture consists of component(s) of unknown toxicity.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is additionally classified and labelled according to the Globally Harmonized System within the United States (GHS).

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS01 GHS06 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

[(2-chlorophenyl)methylene]malononitrile
potassium chlorate
diphenylamine
lead diazide / lead azide
potassium perchlorate

· **Hazard statements**

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H412.

H204 Fire or projection hazard.
H302+H312 Harmful if swallowed or in contact with skin.
H331 Toxic if inhaled.
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.
H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
 No smoking.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P284 Wear respiratory protection.
P264 Wash thoroughly after handling.
P280 Wear protective gloves / eye protection / face protection.
P271 Use only outdoors or in a well-ventilated area.

(Cont'd. on page 3)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 2)

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.
 P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
 P362 Take off contaminated clothing.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P370+P378 In case of fire: Use for extinction: CO₂, powder or water spray.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Additional information:**

Can become highly flammable in use.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Explosive Product Notice**

PREVENTION OF ACCIDENTS IN THE USE OF EXPLOSIVES - The prevention of accidents in the use of explosives is a result of careful planning and observance of the best known practices. The explosives user must remember that he is dealing with a powerful force and that various devices and methods have been developed to assist him in directing this force. He should realize that this force, if misdirected, may either kill or injure both him and his fellow workers.

WARNING - All explosives are dangerous and must be carefully handled and used following approved safety procedures either by or under the direction of competent, experienced persons in accordance with all applicable federal, state, and local laws, regulations, or ordinances. If you have any questions or doubts as to how to use any explosive product, DO NOT USE IT before consulting with your supervisor, or the manufacturer, if you do not have a supervisor. If your supervisor has any questions or doubts, he should consult the manufacturer before use.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**

- **Description:**


Product will contain various combinations of the following substances. Not all substances will be in each product.

Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**


CAS: 2698-41-1
EINECS: 220-278-9

[(2-chlorophenyl)methylene]malononitrile

 Acute Tox. 3, H301; Acute Tox. 2, H330

 Resp. Sens. 1, H334

 Aquatic Acute 1, H400

 Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335

(Cont'd. on page 4)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 3)

CAS: 9004-70-0 EC number: 603-037-0	Nitrocellulose, colloided, granular Explosive 1.1, H201
CAS: 3811-04-9 EINECS: 223-289-7 Index number: 017-004-00-3	potassium chlorate Oxidizing Sol. 1, H271 Aquatic Chronic 2, H411 Acute Tox. 4, H302; Acute Tox. 4, H332
CAS: 57-50-1 EINECS: 200-334-9	sucrose, pure substance with a Community workplace exposure limit
CAS: 598-62-9 EINECS: 209-942-9	manganese carbonate substance with a Community workplace exposure limit
CAS: 7757-79-1 EINECS: 231-818-8	potassium nitrate Oxidizing Sol. 2, H272
CAS: 78-11-5 EINECS: 201-084-3 Index number: 603-035-00-5	pentaerythritol tetranitrate (PETN) Unstable Explosive, H200
CAS: 1309-48-4 EINECS: 215-171-9 Index number: 025-199-09-0	magnesium oxide substance with a Community workplace exposure limit
CAS: 1309-37-1 EINECS: 215-168-2	diiron trioxide / iron (III) oxide substance with a Community workplace exposure limit
CAS: 7440-50-8 EINECS: 231-159-6	copper substance with a Community workplace exposure limit
CAS: 7440-32-6 EINECS: 231-142-3	titanium Pyrophoric Sol. 1, H250; Self-heat. 1, H251; Water-react. 1, H260
CAS: 13424-46-9 EINECS: 236-542-1 Index number: 082-003-00-7	lead diazide / lead azide Unstable Explosive, H200 Carc. 1B, H350; Repr. 1A, H360Df; STOT RE 2, H373 Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Acute Tox. 4, H302; Acute Tox. 4, H332
CAS: 7440-66-6	zinc metal Aquatic Acute 1, H400; Aquatic Chronic 1, H410
CAS: 7440-21-3 EINECS: 231-130-8	silicon Flam. Sol. 2, H228
CAS: 7440-67-7 EINECS: 231-176-9 Index number: 040-001-00-3	zirconium powder (pyrophoric) Pyrophoric Sol. 1, H250; Water-react. 1, H260
CAS: 7429-90-5 EINECS: 231-072-3 Index number: 013-001-00-6	aluminium powder (pyrophoric) Pyrophoric Sol. 1, H250; Water-react. 2, H261
CAS: 7778-74-7 EINECS: 231-912-9 Index number: 017-008-00-5	potassium perchlorate Oxidizing Sol. 1, H271 Acute Tox. 4, H302

(Cont'd. on page 5)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 4)

CAS: 7704-34-9 EINECS: 231-722-6 Index number: 016-094-00-1	sulfur ⚠ Skin Irrit. 2, H315
CAS: 592-87-0 EINECS: 209-774-6 Index number: 082-001-00-6	lead dithiocyanate ☠ Carc. 1B, H350; Repr. 1A, H360Df; STOT RE 2, H373 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410 ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332
CAS: 122-39-4 EINECS: 204-539-4 Index number: 612-026-00-5	diphenylamine ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 ☠ STOT RE 2, H373 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410
CAS: 557-04-0 EINECS: 209-150-3	magnesium distearate, pure substance with a Community workplace exposure limit
CAS: 10294-40-3 EINECS: 233-660-5 Index number: 056-002-00-7	barium chromate ☠ Carc. 1A, H350 ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332
CAS: 69012-64-2 EINECS: 273-761-1	Silica-Amorphous Silica fume substance with a Community workplace exposure limit

- **SVHC**

13424-46-9	lead diazide / lead azide
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- **Additional information:**

For the wording of the listed Hazard Statements refer to section 16.

For the listed ingredient(s), the identity and exact percentages are being withheld as a trade secret.

- **Notable Trace Components (≤ 0,1% w/w)**

CAS: 7758-97-6 EINECS: 231-846-0 Index number: 082-004-00-2	lead chromate ☠ Carc. 1B, H350; Repr. 1A, H360Df; STOT RE 2, H373 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410
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SECTION 4: First aid measures

- **4.1 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.

(Cont'd. on page 6)

Safety Data Sheet
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 5)

- **After eye contact:**
Protect unharmed eye.
Remove contact lenses if worn.
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; call for medical help immediately.
- **4.2 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.
May cause respiratory irritation.
Breathing difficulty
Coughing
Allergic reactions
Disorientation
- **Hazards**
Danger of blast or crush-type injuries.
Danger of pulmonary oedema.
Danger of impaired breathing.
Toxic if inhaled.
Harmful if swallowed or in contact with skin.
- **4.3 Indication of any immediate medical attention and special treatment needed**
Contains [(2-chlorophenyl)methylene]malononitrile. May produce an allergic reaction.
Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.
If necessary oxygen respiration treatment.
Later observation for pneumonia and pulmonary oedema.
Product may produce physical injury if mishandled. Treatment of these injuries should be based on the blast and compression effects.

SECTION 5: Firefighting measures

- **5.1 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.
- **5.2 Special hazards arising from the substance or mixture**
Fire or projection hazard.
Product may explode if burned in confined space. Individual cartridges may explode. Mass explosion of many cartridges at once is unlikely.

(Cont'd. on page 7)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 6)

- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Evacuate area and fight fire from from the upwind side.
Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

- **6.1 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 on the windward side.
Wear protective equipment. Keep unprotected persons away.
Remove persons from danger area.
Ensure adequate ventilation
Protect from heat.
Keep away from ignition sources.
- **6.2 Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Suppress gases/fumes/haze with water spray.
- **6.3 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 section 13.
- **6.4 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.

SECTION 7: Handling and storage

- **7.1 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 fire - and explosion protection:**
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.

(Cont'd. on page 8)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 7)

- **7.2 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.
Store away from flammable substances.
Do not store together with oxidising 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.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see section 7.
- **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

2698-41-1 [(2-chlorophenyl)methylene]malononitrile

PEL (USA)	Long-term value: 0,4 mg/m ³ , 0,05 ppm
REL (USA)	Ceiling limit: 0,4 mg/m ³ , 0,05 ppm Skin
TLV (USA)	Ceiling limit: 0,39 mg/m ³ , 0,05 ppm Skin
EL (Canada)	Ceiling limit: 0,05 ppm Skin
EV (Canada)	Ceiling limit: 0,4 mg/m ³ , 0,05 ppm Skin

57-50-1 sucrose, pure

PEL (USA)	Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction
TLV (USA)	Long-term value: 10 mg/m ³
EL (Canada)	Long-term value: 10* 3** mg/m ³ *total dust; **respirable fraction
EV (Canada)	Long-term value: 10 mg/m ³ total dust

(Cont'd. on page 9)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 8)

598-62-9 manganese carbonate

PEL (USA)	Ceiling limit: 5 mg/m ³ as Mn
REL (USA)	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³ as Mn
TLV (USA)	Long-term value: 0,02* 0,1* mg/m ³ as Mn; *respirable **inhalable fraction
EL (Canada)	Long-term value: 0,2 mg/m ³ as Mn; R

1309-48-4 magnesium oxide

PEL (USA)	Long-term value: 15* mg/m ³ fume; *total particulate
TLV (USA)	Long-term value: 10* mg/m ³ *as inhalable fraction
EL (Canada)	Short-term value: 10** mg/m ³ Long-term value: 10* 3** mg/m ³ *inhalable fume; **respirable dust and fume
EV (Canada)	Long-term value: 10 mg/m ³ inhalable

1309-37-1 diiron trioxide / iron (III) oxide

PEL (USA)	Long-term value: 10* 15** 5*** mg/m ³ *Fume; Rouge: **Total dust, ***respirable
REL (USA)	Long-term value: 5 mg/m ³ Dust & fume, as Fe
TLV (USA)	Long-term value: 5* mg/m ³ *as respirable fraction
EL (Canada)	Short-term value: 10** mg/m ³ Long-term value: 5* 10*** 3**** mg/m ³ *dust & fume**fume; Rouge: ***total dust****resp.
EV (Canada)	Long-term value: 5* 10** mg/m ³ *respirable, including Rouge; **total dust

7440-50-8 copper

PEL (USA)	Long-term value: 1* 0,1** mg/m ³ as Cu *dusts and mists **fume
REL (USA)	Long-term value: 1* 0,1** mg/m ³ as Cu *dusts and mists **fume
TLV (USA)	Long-term value: 1* 0,2** mg/m ³ *dusts and mists; **fume; as Cu
EL (Canada)	Long-term value: 1* 0,2** mg/m ³ *dusts and mists; **fume, as Cu
EV (Canada)	Long-term value: 0,2* 1** mg/m ³ as copper, *fume; **dust and mists

(Cont'd. on page 10)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 9)

13424-46-9 lead diazide / lead azide

PEL (USA)	Long-term value: 0,05 mg/m ³ as Pb; See 29 CFR 1910,1025
REL (USA)	Long-term value: 0,05* mg/m ³ as Pb;*8-hr TWA; See Pocket Guide App. C
TLV (USA)	Long-term value: 0,05 mg/m ³ as Pb; BEI
EL (Canada)	Long-term value: 0,05 mg/m ³ as Pb; IARC 2A, R

7440-21-3 silicon

PEL (USA)	Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction
TLV (USA)	TLV withdrawn
EL (Canada)	Long-term value: 10* 3** mg/m ³ *total dust;**respirable fraction
EV (Canada)	Long-term value: 10 mg/m ³ total dust

7440-67-7 zirconium powder (pyrophoric)

PEL (USA)	Long-term value: 5 mg/m ³ as Zr
REL (USA)	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as Zr
TLV (USA)	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as Zr
EL (Canada)	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as Zr
EV (Canada)	Short-term value: 10 mg/m ³ Long-term value: 5 mg/m ³ as zirconium

7429-90-5 aluminium powder (pyrophoric)

PEL (USA)	Long-term value: 15*; 15** mg/m ³ *Total dust; ** Respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m ³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV (USA)	Long-term value: 1* mg/m ³ as Al; *as respirable fraction

(Cont'd. on page 11)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 10)

EL (Canada)	Long-term value: 1,0 mg/m ³ respirable, as Al
EV (Canada)	Long-term value: 5 mg/m ³ aluminium-containing (as aluminium)

592-87-0 lead dithiocyanate

PEL (USA)	Long-term value: 5 mg/m ³ as CN; Skin
EV (Canada)	Long-term value: 0,05 mg/m ³ as Pb, Skin (organic compounds)

122-39-4 diphenylamine

REL (USA)	Long-term value: 10 mg/m ³
TLV (USA)	Long-term value: 10 mg/m ³
EL (Canada)	Long-term value: 10 mg/m ³
EV (Canada)	Long-term value: 10 mg/m ³

557-04-0 magnesium distearate, pure

TLV (USA)	Long-term value: 10 mg/m ³
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10294-40-3 barium chromate

PEL (USA)	Long-term value: 0,005* mg/m ³ Ceiling limit: 0,1** mg/m ³ *as Cr(VI) **as CrO ₃ ; see 29 CFR 1910,1026
REL (USA)	Long-term value: 0,0002 mg/m ³ as Cr; See Pocket Guide Apps. A and C
TLV (USA)	Long-term value: 0,01 mg/m ³ as Cr
EL (Canada)	Long-term value: 0,01 mg/m ³ as Cr; ACGIH A1, IARC 1

69012-64-2 Silica-Amorphous Silica fume

TLV (USA)	TLV withdrawn
EL (Canada)	Long-term value: 4* 1,5** mg/m ³ fume *total; **respirable
EV (Canada)	Long-term value: 2 mg/m ³ respirable

- **DNELs** No further relevant information available.
- **PNECs** No further relevant information available.

Ingredients with biological limit values:**13424-46-9 lead diazide / lead azide**

BEI (USA)	30 µg/100 ml Medium: blood Time: not critical Parameter: Lead
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(Cont'd. on page 12)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 11)

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 valid during the making were used as basis.

- **8.2 Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

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.

- **Respiratory protection:**



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 checked prior to the application.

(Cont'd. on page 13)

Safety Data Sheet


according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 12)

- **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.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
 - **Form:** Solid material
 - **Colour:** Grey
- **Odour:** Characteristic
- **Odour threshold:** Not determined.
- **pH-value:** Not applicable.
- **Change in condition**
 - **Melting point/Melting range:** Not Determined.
 - **Boiling point/Boiling range:** Undetermined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.
- **Auto/Self-ignition temperature:** Not determined.
- **Decomposition temperature:** Not determined.
- **Self-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.
- **Vapour pressure:** Not applicable.
- **Density:** Not determined.
- **Relative density** Not determined.
- **Vapour density** Not applicable.

(Cont'd. on page 14)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 13)

- **Evaporation rate** Not applicable.
- **Solubility in / Miscibility with water:** Insoluble.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic:** Not applicable.
 - Kinematic:** Not applicable.
- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 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 (oxidising) material. Danger of Explosion.
Strong exothermic reaction with acids.
Develops toxic gases/fumes.
- **10.4 Conditions to avoid**
Keep ignition sources away - Do not smoke.
Store away from oxidising agents.
Keep away from heat and direct sunlight.
Cartridge may detonate if case is punctured or severely damaged.
- **10.5 Incompatible materials:** Contact with acids liberates toxic gas.
- **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Hydrocarbons
Leadoxide vapour
Bariumoxide vapour
Nitrogen oxides (NOx)
Chlorine compounds
Poisonous gases/vapours
Irritant gases/vapours

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed or in contact with skin.
Toxic if inhaled.

(Cont'd. on page 15)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 14)

· **LD/LC50 values relevant for classification:**

2698-41-1 [(2-chlorophenyl)methylene]malononitrile

Oral	LD50	178 mg/kg (rat)
------	------	-----------------

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:**

· **Skin corrosion/irritation**

Causes skin irritation.

· **Serious eye damage/irritation**

Causes serious eye irritation.

· **Respiratory or skin sensitisation**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

· **Additional toxicological information:** Toxic and/or corrosive effects may be delayed up to 24 hours.

· **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.

· **Sensitisation:** 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 (carcinogenicity, mutagenicity and toxicity for reproduction):**

· **Germ cell mutagenicity**

Based on available data, the classification criteria are not met.

· **Carcinogenicity**

Based on available data, the classification criteria are not met.

· **Reproductive toxicity**

Based on available data, the classification criteria are not met.

· **STOT-single exposure**

May cause respiratory irritation.

· **STOT-repeated exposure**

Based on available data, the classification criteria are not met.

· **Aspiration hazard**

Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

Toxic for aquatic organisms

The product contains materials that are harmful to the environment.

(Cont'd. on page 16)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 15)

2698-41-1 [(2-chlorophenyl)methylene]malononitrile

EC50	0,2-0,3 mg/kg (Oncorhynchus mykiss) 96 H
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- **12.2 Persistence and degradability** The product is partially biodegradable. Significant residuals remain.
- **12.3 Bioaccumulative potential** May be accumulated in organism
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological 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
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
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.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed 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 packaging:**
- **Recommendation:** Disposal must be made according to local official regulations.

SECTION 14: Transport information

- **14.1 UN-Number**
- **DOT, ADR, IMDG, IATA** UN0301

(Cont'd. on page 17)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 16)

- 14.2 UN proper shipping name
- DOT, IMDG, IATA

AMMUNITION TEAR-PRODUCING with burster,
expelling
charge or propelling charge

0301 AMMUNITION TEAR-PRODUCING with burster,
expelling
charge or propelling charge

- ADR

- 14.3 Transport hazard class(es)

- DOT



- Class
- Label

1 Explosive substances and articles.
1.4G, 6.1, 8

-
- ADR



- Class
- Label

1 () Explosive substances and articles.
1.4G+6.1+8

-
- IMDG



- Class
- Label

1.4
1.4G/6.1/8

-
- IATA



- Class
- Label

1.4
1.4G (6.1, 8)

- 14.4 Packing group
- DOT, ADR, IMDG, IATA

II

- 14.5 Environmental hazards:

Not applicable.

- 14.6 Special precautions for user

Warning: Explosive substances and articles.

- Danger code (Kemler):

- EMS Number:

F-B,S-Z

- 14.7 Transport in bulk according to Annex II of
Marpol and the IBC Code

Not applicable.

(Cont'd. on page 18)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 17)

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

0

· **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· **Transport category**

2

· **Tunnel restriction code**

E

· **IMDG**

· **Limited quantities (LQ)**

0

· **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· **UN "Model Regulation":**

UN0301, AMMUNITION TEAR-PRODUCING with
burster, expelling
charge or propelling charge, (1.4G+6.1+8), II

SECTION 15: Regulatory information

· **15.1 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 are listed.

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

598-62-9	manganese carbonate
7757-79-1	potassium nitrate
7440-50-8	copper
13424-46-9	lead diazide / lead azide
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.

13424-46-9	lead diazide / lead azide
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
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(Cont'd. on page 19)

Safety Data Sheet
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 18)

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.

13424-46-9 | lead diazide / lead azide

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

13424-46-9 | lead diazide / lead azide

B2

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

13424-46-9 | lead diazide / lead azide

2A

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

1309-48-4 | magnesium oxide

A4

1309-37-1 | diiron trioxide / iron (III) oxide

A4

13424-46-9 | lead diazide / lead azide

A3

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

- **Canada**

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

All ingredients are listed.

(Cont'd. on page 20)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 19)

· **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)

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I**

None of the ingredients are listed.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

13424-46-9	lead diazide / lead azide
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· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 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.

· **Relevant phrases**

- H200 Unstable explosives.
- H201 Explosive; mass explosion hazard.
- H228 Flammable solid.
- H250 Catches fire spontaneously if exposed to air.
- H251 Self-heating; may catch fire.
- H260 In contact with water releases flammable gases which may ignite spontaneously.
- H261 In contact with water releases flammable gases.
- H271 May cause fire or explosion; strong oxidiser.
- H272 May intensify fire; oxidiser.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H330 Fatal if inhaled.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.

(Cont'd. on page 21)

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

(Cont'd. from page 20)

- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H350 May cause cancer.
- H360Df May damage the unborn child. Suspected of damaging fertility.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.

• **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
- Expl. 1.4: Explosives, Division 1.4
- Unst. Expl.: Explosives, Unstable explosives
- Flam. Sol. 2: Flammable solids, Hazard Category 2
- Pyr. Sol. 1: Pyrophoric Solids, Hazard Category 1
- Self-heat. 1: Self-Heating Substances and Mixtures, Hazard Category 1
- Water-react. 1: Substances and Mixtures which, in contact with water, emit flammable gases, 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. 2: Serious eye damage/eye irritation, Hazard Category 2
- 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
- Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
- Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2
- Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

• **Sources**

SDS Prepared by:
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(Cont'd. on page 22)

Safety Data Sheet
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Printing date August 13, 2015

Revision: August 13, 2015

Trade name: Instantaneous Blast CS Grenade

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(Cont'd. from page 21)