

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

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

- **1.1 Product identifier**
- **Trade name:** Muzzle Blast 37mm Powder Dispersion Round, CS
- **Article number:** 1142 (1012247)
- **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
- **Further information obtainable from:** Customer Care Department
- **1.4 Emergency telephone number:**
ChemTel Inc.
+1 (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).
The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H411.



exploding bomb

Expl. 1.4 H204 Fire or projection hazard.



skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 3 H331 Toxic if inhaled.



health hazard

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



environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

(Cont'd. on page 2)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 1)



Acute Tox. 4 H312 Harmful in contact with skin.
 Skin Irrit. 2 H315 Causes skin irritation.
 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.

· **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**



This pictogram only applicable for EU regulations. Not for use in the United States (OSHA GHS).



GHS01 GHS06 GHS08 GHS09

· **Signal word** Danger

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

glycerol trinitrate / nitroglycerin
 [(2-chlorophenyl)methylene]malononitrile
 potassium perchlorate
 diphenylamine
 Rosin

· **Hazard statements**

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H411.

H204 Fire or projection hazard.
 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.
 H411 Toxic to aquatic life with long lasting effects.

(Cont'd. on page 3)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 2)

· Precautionary statements

The following Precautionary Statements are applicable only to the general GHS regulations and not the specific CLP regulation: P374.

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P250 Do not subject to grinding/shock/friction.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P285 In case of inadequate ventilation wear respiratory protection.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P373 DO NOT fight fire when fire reaches explosives.
- P374 Fight fire with normal precautions from a reasonable distance.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
- P372 Explosion risk in case of fire.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- 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.

· Additional information:

Can become highly flammable in use.

· NFPA ratings (scale 0 - 4)



Health = 4
Fire = 0
Reactivity = 3

· HMIS-ratings (scale 0 - 4)

Warning: Contains lead salt(s). Long-term health hazard.



Health = *3
Fire = 0
Reactivity = 3

* - Indicates a long term health hazard from repeated or prolonged exposures.

· 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

(Cont'd. on page 4)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

consult the manufacturer before use.

(Cont'd. from page 3)

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.

· Dangerous components:

| | |
|---|--|
| CAS: 9004-70-0 EC number: 603-037-0 | Nitrocellulose, colloided, granular ⚠ Expl. 1.1, H201 |
| 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 |
| CAS: 55-63-0 EINECS: 200-240-8 Index number: 603-034-00-X | glycerol trinitrate / nitroglycerin ⚠ Unst. Expl., H200 ⚠ Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330 ⚠ STOT RE 2, H373 ⚠ Aquatic Chronic 2, H411 Flam. Liq. 2, H225 |
| CAS: 7757-79-1 EINECS: 231-818-8 | potassium nitrate ⚠ Ox. Sol. 2, H272 |
| CAS: 7778-74-7 EINECS: 231-912-9 Index number: 017-008-00-5 | potassium perchlorate ⚠ Ox. Sol. 1, H271 ⚠ Acute Tox. 4, H302 |
| 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: 85-98-3 EINECS: 201-645-2 | 1,3-diethyldiphenylurea ⚠ Acute Tox. 4, H302 Aquatic Chronic 3, H412 |
| CAS: 1309-48-4 EINECS: 215-171-9 Index number: 025-199-09-0 | magnesium oxide substance with a Community workplace exposure limit |
| CAS: 69012-64-2 EINECS: 273-761-1 | Silica-Amorphous Silica fume substance with a Community workplace exposure limit |
| CAS: 7439-89-6 EINECS: 231-096-4 | iron substance with a Community workplace exposure limit |

(Cont'd. on page 5)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 4)

| | |
|--|--|
| CAS: 7440-50-8 EINECS: 231-159-6 | copper substance with a Community workplace exposure limit |
| CAS: 7704-34-9 EINECS: 231-722-6 Index number: 016-094-00-1 | sulfur ⚠ Skin Irrit. 2, H315 |
| CAS: 1314-23-4 EINECS: 215-227-2 | zirconium dioxide substance with a Community workplace exposure limit |
| CAS: 10022-31-8 EINECS: 233-020-5 Index number: 056-002-00-7 | barium nitrate ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332 |

· **SVHC**

15245-44-0 | lead 2,4,6-trinitro-m-phenylene dioxide/ lead styphnate

· **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: 15245-44-0 EINECS: 239-290-0 Index number: 609-019-00-4 | lead 2,4,6-trinitro-m-phenylene dioxide/ lead styphnate ⚠ Unst. Expl., H200 ⚠ Repr. 1A, H360Df; STOT RE 2, H373 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410 ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332 |
| CAS: 592-87-0 EINECS: 209-774-6 Index number: 082-001-00-6 | lead dithiocyanate ⚠ Repr. 1A, H360Df; STOT RE 2, H373 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410 ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332 |

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Take affected persons out into the fresh air.

Do not leave affected persons unattended.

Remove breathing equipment only after contaminated clothing have been completely removed.

· **After inhalation:**

Remove victim to fresh air.

Seek immediate medical advice.

Provide oxygen treatment if affected person has difficulty breathing.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After skin contact:**

Immediately remove any clothing soiled by the product.

Brush off loose particles from skin.

Immediately wash with water and soap and rinse thoroughly.

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 December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 5)

- **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
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.
Allergic reactions
May cause respiratory irritation.
Breathing difficulty
Coughing
Irritant to eyes.
Irritant to skin and mucous membranes.
- **Hazards**
Danger of blast or crush-type injuries.
Harmful in contact with skin.
Danger of impaired breathing.
- **4.3 Indication of any immediate medical attention and special treatment needed**
Product may produce physical injury if mishandled. Treatment of these injuries should be based on the blast and compression effects.
Contains [(2-chlorophenyl)methylene]malononitrile. May produce an allergic reaction.
Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.
In cases of irritation to the lungs, initial treatment with corticosteroid inhalants.
Monitor circulation, possible shock treatment.
Treat skin and mucous membrane with antihistamine and corticoid preparations.
If necessary oxygen respiration treatment.
Medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
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**
During heating or in case of fire poisonous gases are produced.
Product may explode if burned in confined space. Individual cartridges may explode. Mass explosion of many cartridges at once is unlikely.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Eliminate all ignition sources if safe to do so.
Cool endangered receptacles with water spray.

(Cont'd. on page 7)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 6)

Evacuate area and fight fire from from the upwind side.
 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
 Flammability Classification: (defined by 29 CFR 1910.1200) Explosive. Can explode under fire conditions.
 Individual devices will randomly explode. Will not mass explode if multiple devices are involved. Burning material may produce toxic and irritating vapors. In unusual cases, shrapnel may be thrown from exploding devices under containment. See 2008 Emergency response Guidebook for further information.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTEL AT 1-800-255-3924. Spills of this material should be handled carefully. Do not subject materials to mechanical shock or extreme heat. A spill of this material will normally not require emergency response team capabilities.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Wear protective equipment. Keep unprotected persons away.

Remove persons from danger area.

Ensure adequate ventilation

Protect from heat.

Isolate area and prevent access.

6.2 Environmental precautions: No special measures required.

6.3 Methods and material for containment and cleaning up:

Pick up mechanically.

Dispose contaminated material as waste according to section 13.

Send for recovery or disposal in suitable receptacles.

Clean the affected area carefully; suitable cleaners are:

Warm water and cleansing agent

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.

Avoid breathing dust.

Use only in well ventilated areas.

Information about fire - and explosion protection:

Protect from heat.

Keep respiratory protective device available.

Emergency cooling must be available in case of nearby fire.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Avoid storage near extreme heat, ignition sources or open flame.

(Cont'd. on page 8)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 7)

- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from flammable substances.
- **Further information about storage conditions:** Store in dry conditions.
- **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:

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 |

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 |

55-63-0 glycerol trinitrate / nitroglycerin

| | |
|-------------|--|
| PEL (USA) | Ceiling limit: 2 mg/m ³ , 0,2 ppm Skin |
| REL (USA) | Short-term value: 0,1 mg/m ³ Skin |
| TLV (USA) | Long-term value: 0,46 mg/m ³ , 0,05 ppm Skin |
| EL (Canada) | Long-term value: 0,05 ppm Skin |
| EV (Canada) | Long-term value: 0,5 mg/m ³ , 0,05 ppm Skin |

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

| | |
|-----------|---|
| PEL (USA) | Long-term value: 0,4 mg/m ³ , 0,05 ppm |
|-----------|---|

(Cont'd. on page 9)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 8)

| | |
|------------------------------------|---|
| 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 |
| 7439-89-6 iron | |
| EV (Canada) | Long-term value: 1* 5** mg/m ³ as iron; *salts, water-soluble; **welding fume |
| 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 |
| 1314-23-4 zirconium dioxide | |
| 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 |
| 8050-09-7 Rosin | |
| TLV (USA) | DSEN, RSEN, L |
| EL (Canada) | S |
| 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 |

(Cont'd. on page 10)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 9)

15245-44-0 lead 2,4,6-trinitro-m-phenylene dioxide/ lead styphnate

| | |
|-------------|--|
| EV (Canada) | Long-term value: 0,05 mg/m ³ as Pb, Skin (organic compounds) |
|-------------|--|

10022-31-8 barium nitrate

| | |
|------------|---|
| IOELV (EU) | Long-term value: 0,5 mg/m ³ as Ba |
|------------|---|

| | |
|-----------|---|
| PEL (USA) | Long-term value: 0,5 mg/m ³ as Ba |
|-----------|---|

| | |
|-----------|---|
| REL (USA) | Long-term value: 0,5 mg/m ³ as Ba |
|-----------|---|

| | |
|-----------|---|
| TLV (USA) | Long-term value: 0,5 mg/m ³ as Ba |
|-----------|---|

| | |
|-------------|---|
| EL (Canada) | Long-term value: 0,5 mg/m ³ as Ba |
|-------------|---|

1345-04-6 antimony sulphide

| | |
|-----------|---|
| PEL (USA) | Long-term value: 0,5 mg/m ³ as Sb |
|-----------|---|

| | |
|-----------|---|
| REL (USA) | Long-term value: 0,5 mg/m ³ as Sb |
|-----------|---|

| | |
|-----------|---|
| TLV (USA) | Long-term value: 0,5 mg/m ³ as Sb |
|-----------|---|

| | |
|-------------|---|
| EL (Canada) | Long-term value: 0,5 mg/m ³ as Sb |
|-------------|---|

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

· **8.2 Exposure controls**

- **Engineering measures** Provide adequate ventilation.

· **Personal protective equipment:**

· **General protective and hygienic measures:**

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

Immediately remove all soiled and contaminated clothing.

Do not inhale dust / smoke / mist.

Avoid contact with the eyes and skin.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

· **Respiratory protection:**



Respiratory protection required.

Wear positive pressure NIOSH or European EN149 vapor respirators when deploying product in large quantities.

(Cont'd. on page 11)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 10)

· **Protection of hands:**



Protective gloves

Wear gloves when handling deployed rounds.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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.

· **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.

No further relevant information available.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:** Solid metal container containing liquid and solid contents.

· **Colour:** According to product specification

· **Odour:** Odourless

· **Odour threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

· **Melting point/Melting range:** Not determined.

· **Boiling point/Boiling range:** Not determined.

· **Flash point:** Not applicable.

(Cont'd. on page 12)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 11)

| | |
|---|--|
| · 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: | Heating may cause an explosion. |
| · Explosion limits: | |
| Lower: | Not determined. |
| Upper: | Not determined. |
| · Vapour pressure: | Not applicable. |
| · Density: | Not determined. |
| · Relative density | Not determined. |
| · Vapour density | Not applicable. |
| · 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**
Danger of explosion.
Toxic fumes may be released if heated above the decomposition point.
Contact with acids releases toxic gases.
Acts as an oxidising agent on organic materials such as wood, paper and fats.
Reacts with strong alkali.
- **10.4 Conditions to avoid** Sources of ignition, open flame, incompatible materials.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides

(Cont'd. on page 13)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

Sulphur oxides (SOx)

(Cont'd. from page 12)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Toxic if swallowed or if inhaled.

Harmful in contact with skin.

LD/LC50 values relevant for classification:

55-63-0 glycerol trinitrate / nitroglycerin

| | | |
|--------|------|--------------------|
| Oral | LD50 | 115 mg/kg (mouse) |
| | | 105 mg/kg (rat) |
| Dermal | LD50 | 29 mg/kg (rat) |
| | | 280 mg/kg (rabbit) |

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

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

122-39-4 diphenylamine

| | | |
|------|------|------------------|
| Oral | LD50 | 1120 mg/kg (rat) |
|------|------|------------------|

15245-44-0 lead 2,4,6-trinitro-m-phenylene dioxide/ lead styphnate

| | | |
|------|------|-----------------|
| Oral | LD50 | 650 mg/kg (rat) |
|------|------|-----------------|

Primary irritant effect:

Effects based on exposure to dusts/mists/spray/vapours released during deployment. Unused product does not possess these effects.

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:

Normal handling of the undeployed product poses little or no health hazards. One should avoid inhalation by wearing appropriate respiratory protection when exposed to the chemical ingredients of the product above listed TLV's or when exposed to the post ignition by-products. This product is a canister which contains the various components completely sealed within. Therefore, under normal handling of this product, no exposure to any harmful materials will occur. When the product is used, particles may be generated which may be irritating to the eyes and the respiratory tract.

Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.

Acute effects (acute toxicity, irritation and corrosivity):

Irritating to eyes, respiratory system and skin.

Inhalation may cause irritation to the respiratory system.

Repeated dose toxicity:

May cause damage to organs through prolonged or repeated exposure.

Repeated exposures may result in skin and/or respiratory sensitivity.

(Cont'd. on page 14)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 13)

- **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:**
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) |
|------|-------------------------------------|

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** May be accumulated in organism
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
The product contains heavy metals. Avoid transfer into the environment. Specific preliminary treatments are necessary
Harmful to aquatic organisms
Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
- **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.
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.

(Cont'd. on page 15)

Safety Data Sheet

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

Printing date December 1, 2015










Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 14)

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

| | |
|---|---|
| <ul style="list-style-type: none"> · 14.1 UN-Number · DOT, ADR, IMDG, IATA | UN0301 |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · DOT, IMDG, IATA · ADR | <p>Ammunition Tear-producing with burster, expelling charge or propelling charge</p> <p>0301 Ammunition Tear-producing with burster, expelling charge or propelling charge</p> |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · DOT | <div style="display: flex; align-items: center; gap: 10px;">    </div> <p>· Class 1.4</p> <p>· Label 1.4G+6.1+8</p> |
| <ul style="list-style-type: none"> · ADR, IMDG | <div style="display: flex; align-items: center; gap: 10px;">    </div> <p>· Class 1.4</p> <p>· Label 1.4G+6.1+8</p> |
| <ul style="list-style-type: none"> · IATA | <div style="display: flex; align-items: center; gap: 10px;">    </div> <p>· Class 1.4G</p> <p>· Label 1.4G+6.1+8</p> |
| <ul style="list-style-type: none"> · 14.4 Packing group · DOT, ADR, IMDG, IATA | II |
| <ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: | No |

(Cont'd. on page 16)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 15)

· **Special marking (IATA):**



Cargo Aircraft Only.

· **14.6 Special precautions for user** Not applicable.

· **EMS Number:** F-A,S-Q

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

· **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):**

| | |
|-----------|-------------------------------------|
| 7757-79-1 | potassium nitrate |
| 55-63-0 | glycerol trinitrate / nitroglycerin |
| 7440-50-8 | copper |
| 7440-66-6 | zinc metal |

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

All ingredients are listed.

· **Proposition 65 (California):**

· **Chemicals known to cause cancer:**

Present in trace quantities.

| | |
|------------|---|
| 15245-44-0 | lead 2,4,6-trinitro-m-phenylene dioxide/ lead styphnate |
| 592-87-0 | lead dithiocyanate |

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

Present in trace quantities.

None of the ingredients are listed.

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

Present in trace quantities.

None of the ingredients are listed.

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

Present in trace quantities.

| | |
|------------|---|
| 15245-44-0 | lead 2,4,6-trinitro-m-phenylene dioxide/ lead styphnate |
|------------|---|

(Cont'd. on page 17)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 16)

592-87-0 | lead dithiocyanate

- **Carcinogenic Categories**

- **EPA (Environmental Protection Agency)**

7440-50-8 | copper

D

7778-74-7 | potassium perchlorate

NL

7440-66-6 | zinc metal

D, I, II

10022-31-8 | barium nitrate

D, CBD(inh), NL(oral)

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

69012-64-2 | Silica-Amorphous Silica fume

3

7631-86-9 | silicon dioxide

3

1345-04-6 | antimony sulphide

3

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

None of the ingredients are listed.

- **Canada**

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

All ingredients are listed.

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

122-39-4 | diphenylamine

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

1309-48-4 | magnesium oxide

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

7440-50-8 | copper

- **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**

15245-44-0 | lead 2,4,6-trinitro-m-phenylene dioxide/ lead styphnate

- **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.

H225 Highly flammable liquid and vapour.

H271 May cause fire or explosion; strong oxidiser.

(Cont'd. on page 18)

Safety Data Sheet

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 17)

H272 May intensify fire; oxidiser.
 H300 Fatal if swallowed.
 H301 Toxic if swallowed.
 H302 Harmful if swallowed.
 H310 Fatal in contact with skin.
 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.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H335 May cause respiratory irritation.
 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.
 H412 Harmful 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
 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)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 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
 NIOSH: National Institute for Occupational Safety
 Expl. 1.1: Explosives, Division 1.1
 Expl. 1.4: Explosives, Division 1.4
 Unst. Expl.: Explosives, Unstable explosives
 Flam. Liq. 2: Flammable liquids, 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. 1: Acute toxicity, Hazard Category 1
 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
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
 STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

(Cont'd. on page 19)

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

Printing date December 1, 2015

Revision: December 1, 2015

Trade name: Muzzle Blast 37mm Powder Dispersion Round, CS

(Cont'd. from page 18)

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, 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

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