

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date August 12, 2015

Reviewed on August 12, 2015

1 Identification

- **Product identifier**
- **Trade name:** Flameless Expulsion Inert Grenade - Practice
- **Article number:** 2043 (1012005)
- **Recommended use and restriction on use**
- **Recommended use:** Practice munition / 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
- **Information department:** Customer Care Department
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585



2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS01 Exploding bomb

Expl. 1.4 H204 Fire or projection hazard.



GHS04 Gas cylinder

Press. Gas H280 Contains gas under pressure; may explode if heated.

- **Additional information:**

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

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS01 GHS04

- **Signal word** Warning

- **Hazard statements**

H204 Fire or projection hazard.
H280 Contains gas under pressure; may explode if heated.

- **Precautionary statements**

P210 Keep away from heat, sparks, open flames, and hot surfaces. - No smoking.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date August 12, 2015

Reviewed on August 12, 2015

Trade name: Flameless Expulsion Inert Grenade - Practice

(Contd. of page 1)

- P250 Do not subject to grinding/shock/friction.
- P280 Wear face protection.
- P373 DO NOT fight fire when fire reaches explosives.
- P370+P380 In case of fire: Evacuate area.
- P374 Fight fire with normal precautions from a reasonable distance.
- P372 Explosion risk in case of fire.
- P401 Store in accordance with local/regional/national/international regulations.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

124-38-9	carbon dioxide	⚠ Press. Gas, H280	50-100%
1309-48-4	magnesium oxide		25-50%
7440-50-8	copper		≤ 2.5%
7440-66-6	zinc metal		≤ 2.5%

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

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Wash with soap and water.
If skin irritation is experienced, consult a doctor.
- **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:**
Unlikely route of exposure.
Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** Blast injury if mishandled.
- **Danger** Danger of blast or crush-type injuries.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date August 12, 2015

Reviewed on August 12, 2015

Trade name: Flameless Expulsion Inert Grenade - Practice

(Contd. of page 2)

· **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.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

· **For safety reasons unsuitable extinguishing agents:** None.

· **Special hazards arising from the substance or mixture**

Contains gas under pressure; may explode if heated.

Product may explode if burned in confined space. Individual cartridges may explode. Mass explosion of many cartridges at once is unlikely.

· **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.

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.

6 Accidental release measures

· **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.

Wear protective equipment. Keep unprotected persons away.

Remove persons from danger area.

Ensure adequate ventilation.

Isolate area and prevent access.

· **Environmental precautions:** No special measures required.

· **Methods and material for containment and cleaning up:**

Pick up mechanically.

Dispose contaminated material as waste according to item 13.

Send for recovery or disposal in suitable receptacles.

· **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.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date August 12, 2015

Reviewed on August 12, 2015

Trade name: Flameless Expulsion Inert Grenade - Practice

(Contd. of page 3)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Handle with care. Avoid jolting, friction and impact.
Use only in well ventilated areas.
- **Information about protection against explosions and fires:**
Emergency cooling must be available in case of nearby fire.
Pressurised container: May burst if heated.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Pressurised container: May burst if heated.
Store in a cool location.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Store in dry conditions.
- **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:**

124-38-9 carbon dioxide

PEL (USA)	Long-term value: 9000 mg/m ³ , 5000 ppm
REL (USA)	Short-term value: 54.000 mg/m ³ , 30.000 ppm Long-term value: 9000 mg/m ³ , 5000 ppm
TLV (USA)	Short-term value: 54.000 mg/m ³ , 30.000 ppm Long-term value: 9000 mg/m ³ , 5000 ppm
EL (Canada)	Short-term value: 15000 ppm Long-term value: 5000 ppm
EV (Canada)	Short-term value: 54.000 mg/m ³ , 30.000 ppm Long-term value: 9.000 mg/m ³ , 5.000 ppm
LMPE (Mexico)	Short-term value: 30000 ppm Long-term value: 5000 ppm

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

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date August 12, 2015

Reviewed on August 12, 2015

Trade name: Flameless Expulsion Inert Grenade - Practice

(Contd. of page 4)

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
LMPE (Mexico)	Long-term value: 10* mg/m ³ A4, *fracción respirable
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
LMPE (Mexico)	Long-term value: 0.2* 1** mg/m ³ *humo (como Cu);**polvo y niebla (como Cu)

· **Additional information:** No further relevant information available.

· **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.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Engineering controls:** No further relevant information available.

· **Breathing equipment:** Not required under normal conditions of use.

· **Protection of hands:** Gloves not required under normal conditions of use.

· **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**

Organizational measures should be in place for all activities involving this product.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date August 12, 2015

Reviewed on August 12, 2015

Trade name: Flameless Expulsion Inert Grenade - Practice

(Contd. of page 5)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Container with explosive release mechanism releasing powder and compressed gas.

Color: According to product specification

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Fire or projection hazard.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not self-igniting.

· **Danger of explosion:** Not determined.

· Explosion limits:

Lower: Not determined.

Upper: Not determined.

· **Oxidizing properties:** Non-oxidizing.

· **Vapor pressure:** Not determined.

· **Density:** Not determined.

· **Relative density:** Not determined.

· **Vapour density:** Not determined.

· **Evaporation rate:** Not applicable.

· Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

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

· Viscosity:

Dynamic: Not determined.

Kinematic: Not determined.

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

10 Stability and reactivity

· **Reactivity:** No further relevant information available.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date August 12, 2015

Reviewed on August 12, 2015

Trade name: Flameless Expulsion Inert Grenade - Practice

(Contd. of page 6)

- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
Contains gas under pressure; may explode if heated.
- **Possibility of hazardous reactions** Fire or projection hazard.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Possible in traces:
Carbon dioxide
Carbon monoxide
Nitrogen oxides
Sulfur oxides (SOx)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **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.

- **Carcinogenic categories**

· NTP (National Toxicology Program)
--

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)
--

None of the ingredients is listed.

- **Probable Routes of Exposure**

Inhalation.
Eye contact.
Skin contact.

- **Acute effects (acute toxicity, irritation and corrosivity):** Danger of blast or crush-type injuries.
- **Repeated Dose Toxicity:** No further relevant information available.
- **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** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date August 12, 2015

Reviewed on August 12, 2015

Trade name: Flameless Expulsion Inert Grenade - Practice

(Contd. of page 7)

- **Aspiration hazard** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **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.
Harmful to aquatic organisms
Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
- **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. 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 | UN0452 |
| · UN proper shipping name | |
| · DOT, IMDG, IATA | GRENADES, PRACTICE |
| · ADR | 0452 GRENADES, PRACTICE |

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date August 12, 2015

Reviewed on August 12, 2015

Trade name: Flameless Expulsion Inert Grenade - Practice

(Contd. of page 8)

- Transport hazard class(es)
- DOT, IMDG, IATA



- Class 1 Explosive substances und articles
- Label 1.4G

- ADR



- Class 1 (-) Explosive substances und articles
- Label 1.4G
- Packing group II
- DOT, ADR, IMDG, IATA II
- Environmental hazards: Not applicable.
- Special precautions for user Warning: Explosive substances und articles
- Danger code (Kemler):
- EMS Number: F-B,S-X
- 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": UN0452, GRENADES, PRACTICE, 1 (1.4G), II

15 Regulatory information

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

- Section 302 (extremely hazardous substances)

None of the ingredients is listed.

- Section 304 (emergency release notification)

None of the ingredients is listed.

- Sections 311/312 (hazardous chemical threshold planning quantity in pounds)

manganese

10000

- Section 355 (extremely hazardous substances):

None of the ingredients is listed.

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date August 12, 2015

Reviewed on August 12, 2015

Trade name: Flameless Expulsion Inert Grenade - Practice

(Contd. of page 9)

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

None of the ingredients are listed.

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

All ingredients are listed.

· **Proposition 65 (California)**

· **Chemicals known 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:**

10294-40-3 | barium chromate

7758-97-6 | lead chromate

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

10294-40-3 | barium chromate

7758-97-6 | lead chromate

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

10294-40-3 | barium chromate

7758-97-6 | lead chromate

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

7440-50-8 | copper

D

7440-66-6 | zinc metal

D, I, II

7778-74-7 | potassium perchlorate

NL

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

None of the ingredients is listed.

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

1309-48-4 | magnesium oxide

A4

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

None of the ingredients is listed.

· **State Right to Know Listings**

None of the ingredients is listed.

· **Canadian Controlled Products Regulations:**

A - Compressed gas

D1B - Toxic material causing immediate and serious toxic effects

E - Corrosive material

F - Dangerously reactive material

· **Canadian substance listings:**

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

All ingredients listed on DSL or NDSL.

(Contd. on page 11)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date August 12, 2015

Reviewed on August 12, 2015

Trade name: Flameless Expulsion Inert Grenade - Practice

(Contd. of page 10)

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

None of the ingredients is listed.

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

124-38-9	carbon dioxide
----------	----------------

1309-48-4	magnesium oxide
-----------	-----------------

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

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

· **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** August 12, 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

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Expl. 1.4: Explosives, Division 1.4

Press. Gas: Gases under pressure: Compressed gas

Press. Gas: Gases under pressure: Liquefied gas

· **Sources**

Website, European Chemicals Agency (<http://http://echa.europa.eu/>)

Website, US EPA Substance Registry Services (http://http://ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (<https://www.cas.org>)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel Inc.

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573

Website: www.chemtelinc.com