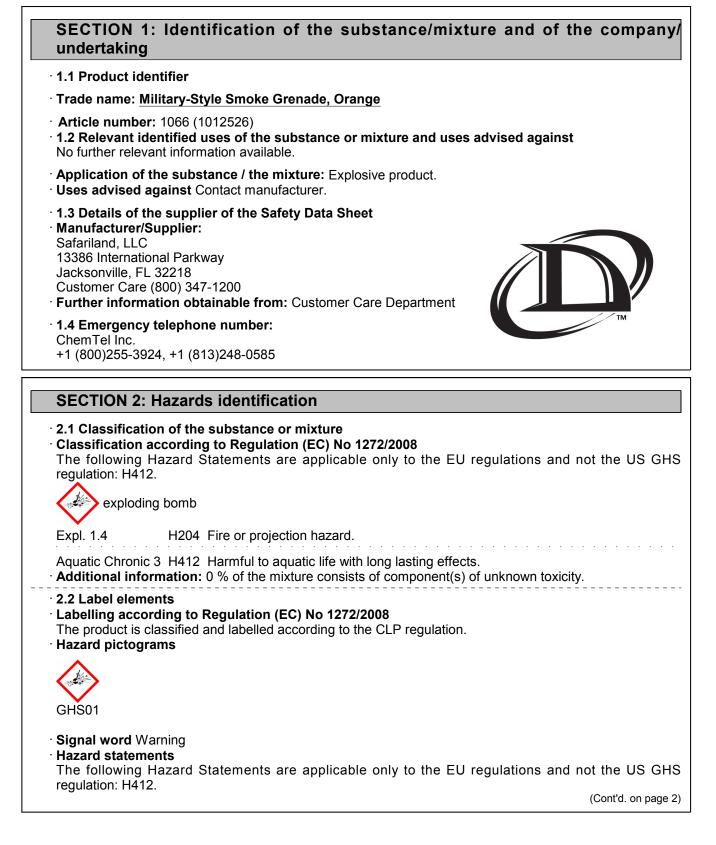
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA

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(Cont'd. from page 1) H204 Fire or projection hazard. H412 Harmful to aquatic life with long lasting effects. **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 smokina. P250 Do not subject to grinding/shock/friction. Wear protective gloves / eve protection / face protection. P280 P370+P380+P375 In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Fight fire with normal precautions from a reasonable distance. P374 P372 Explosion risk in case of fire. 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 = 2Fire = 0Reactivity = 3 · HMIS-ratings (scale 0 - 4) 1 Health = 1 HEALTH • Fire = 0 FIRE **REACTIVITY** 3 Reactivity = 3 · 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.

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3.2 Mixtures Description: Mixture of subs	tances listed below with nonhazardous additions.	
Dangerous components:		
CAS: 100-21-0 EINECS: 202-830-0	terephthalic acid substance with a Community workplace exposure limit	25-50
CAS: 9004-70-0 EC number: 603-037-0	Nitrocellulose, colloided, granular	25-50
CAS: 3811-04-9 EINECS: 223-289-7 Index number: 017-004-00-3	 potassium chlorate Ox. Sol. 1, H271 Aquatic Chronic 2, H411 Acute Tox. 4, H302; Acute Tox. 4, H332 	10-28
CAS: 57-50-1 EINECS: 200-334-9	sucrose, pure substance with a Community workplace exposure limit	10-2
CAS: 598-62-9 EINECS: 209-942-9	manganese carbonate substance with a Community workplace exposure limit	2,5-1
	e identity and exact percentages are being withheld as a trade lazard Statements refer to section 16.	secret.
· Notable Trace Components	i (≤ 0,1% w/w)	
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	
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	
CAS: 10294-40-3 EINECS: 233-660-5 Index number: 056-002-00-7	barium chromate Acute Tox. 4, H302; Acute Tox. 4, H332	

SECTION 4: First aid measures

· 4.1 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:

Unlikely route of exposure.

Brush off loose particles from skin.

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.

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· After swallowing: Do not induce vomiting; call for medical help immediately.

• 4.2 Most important symptoms and effects, both acute and delayed Blast injury if mishandled.

- · Hazards Danger of blast or crush-type injuries.
- 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.

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.

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.

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.

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· 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.
 Use only outdoors or in a well-ventilated area.
 Information about fire - and explosion protection:
 Protect from heat.

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.
 Information about storage in one common storage facility: Store away from foodstuffs.
 Store away from flammable substances.

• Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.

· 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

· o.1 Control p	
· Ingredients v	vith limit values that require monitoring at the workplace:
100-21-0 tere	phthalic acid
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/m³
57-50-1 sucro	ose, 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/m³ total dust
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(Cont'd. from page 5) 598-62-9 manganese carbonate PEL (USA) Ceiling limit: 5 mg/m³ as Mn REL (USA) Short-term value: 3 mg/m³ Long-term value: 1 mg/m³ as Mn TLV (USA) Long-term value: 0,02* 0,1* mg/m³ as Mn; *respirable **inhalable fraction Long-term value: 0,2 mg/m³ EL (Canada) as Mn: R · DNELs No further relevant information available. · PNECs No further relevant information available. · 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. Wash hands before breaks and at the end of work. · Protection of hands: Wear gloves for the protection against mechanical hazards according to NIOSH or EN 388. 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.

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9.1 Information on basic physical a	and chemical properties
General Information	
Appearance:	
Form:	Solid metal container containing 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.
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/wat	ter): 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.

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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 Fire or projection hazard. Toxic fumes may be released if heated above the decomposition point. Reacts with strong acids and alkali. Reacts violently with oxidising agents.
10.4 Conditions to avoid Sources of ignition, open flame, incompatible materials.
10.5 Incompatible materials: Oxidizers
10.6 Hazardous decomposition products: Carbon monoxide and carbon dioxide

Nitrogen oxides

Sulphur oxides (SOx)

SECTION 11: Toxicological information

• 11.1 Information on toxicological effects

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

· LD/LC50 values relevant for classification:

3811-04-9 potassium chlorate

Oral LD50 1870 mg/kg (rat)

· Primary irritant effect:

Skin corrosion/irritation

Not a skin irritant in unused form. Vapors/particles from used product are possibly irritating to skin. • Serious eye damage/irritation

Not an eye irritant in unused form. Vapors/particles from used product are possibly irritating to eyes.

• Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

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 cansister 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.

· CMR effects (carcinogenity, 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.

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

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SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity: No further relevant information available.

- 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.
- · Ecotoxical 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.

· Uncleaned packaging:

• Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information	
· 14.1 UN-Number · DOT, ADR, IMDG, IATA	UN0303
 14.2 UN proper shipping name DOT 	AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge
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ADR	0303 AMMUNITION, SMOKE with or without burste
IMDG, IATA	expelling charge or propelling charge, 0303 AMMUNITION, SMOKE with or without burste
	expelling charge or propelling charge,
14.3 Transport hazard class(es)	
DOT, ADR, IMDG, IATA	
1.4	
Class	1.4
Label	1.4G
14.4 Packing group	
DOT, ADR, IMDG, IATA	II
14.5 Environmental hazards:	
Marine pollutant:	No
14.6 Special precautions for user	Not applicable.
EMS Number:	F-B,S-X
Segregation groups	Chlorates
14.7 Transport in bulk according to Anr	nex II of
Marpol and the IBC Code	Not applicable.
Transport/Additional information:	
IMDG	
Limited quantities (LQ)	0
Excepted quantities (EQ)	Code: E0
	Not permitted as Excepted Quantity
UN "Model Regulation":	UN0303, AMMUNITION, SMOKE with or withou burster, expelling charge or propelling charge, 030 1.4G

SECTION 15: Regulatory information

 $^{\cdot}$ 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture $^{\cdot}$ 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

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TSCA (Toxic Substances Control Act):	(Cont'd. from pag
All ingredients are listed.	
Proposition 65 (California):	
Chemicals known to cause cancer:	
Present in trace quantities.	
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:	
Present in trace quantities. 10294-40-3 barium chromate	
7758-97-6 lead chromate	
Carcinogenic Categories	
EPA (Environmental Protection Agency)	
598-62-9 manganese carbonate	
IARC (International Agency for Research on Cancer)	
None of the ingredients are listed.	
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%)	
598-62-9 manganese carbonate	
Canadian Ingredient Disclosure list (limit 1%)	
100-21-0 terephthalic acid	
Directive 2012/18/EU	
Named dangerous substances - ANNEX I	
None of the ingredients are listed.	
Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t	

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· Other regulations, limitations and prohibitive regulations

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

None of the ingredients are listed.

• 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

H201 Explosive; mass explosion hazard.

H271 May cause fire or explosion; strong oxidiser.

H302 Harmful if swallowed.

H332 Harmful if inhaled.

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 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 Ox. Sol. 1: Oxidising Solids, Hazard Category 1 Acute Tox. 4: Acute toxicity, Hazard Category 4 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: 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