

Safety Data Sheet

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

Printing date November 6, 2015



Revision: November 6, 2015

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

- **1.1 Product identifier**
- **Trade name:** Flameless Tri-Chamber Grenade, Saf-Smoke™
- **Article number:** 1033 (1012474)
- **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** Explosive product.
- **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**
The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H412.
-  exploding bomb
- Expl. 1.4 H204 Fire or projection hazard.
- Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.
- **Additional information:** 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 classified and labelled according to the CLP regulation.
- **Hazard pictograms**
- 
- GHS01
- **Signal word** Warning
- **Hazard statements**
The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H412.

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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 smoking.

P250 Do not subject to grinding/shock/friction.

P280 Wear protective gloves / eye protection / face protection.

P370+P380+P375 In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

P374 Fight fire with normal precautions from a reasonable distance.

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 = 2

Fire = 0

Reactivity = 3

- **HMIS-ratings (scale 0 - 4)**



HEALTH 1 Health = 1

FIRE 0 Fire = 0

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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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Mixture of substances 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 Expl. 1.1, H201	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	10-25%
CAS: 57-50-1 EINECS: 200-334-9	sucrose, pure substance with a Community workplace exposure limit	10-25%
CAS: 598-62-9 EINECS: 209-942-9	manganese carbonate substance with a Community workplace exposure limit	2,5-10%

Additional information:

For the listed ingredient(s), the identity and exact percentages are being withheld as a trade secret.
For the wording of the listed Hazard Statements refer to section 16.

Notable Trace Components (≤ 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.
- **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**

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

100-21-0 terephthalic 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/m ³

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

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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

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

557-04-0 magnesium distearate, pure

TLV (USA)	Long-term value: 10 mg/m ³
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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
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)

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

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EV (Canada)	Long-term value: 0,2* 1** mg/m ³ as copper, *fume;**dust and mists
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- **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.
 - **Respiratory protection:** Not required under normal conditions of use.
 - **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.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
 - Form:** Solid metal container containing solid contents.
 - Colour:** According to product specification
- **Odour:** Odourless

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· 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/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**
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.

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- **10.5 Incompatible materials:** Oxidizers
- **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides
Sulphur oxides (SO_x)

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

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.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish

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- **Additional ecological information:**
- **General notes:**
 - Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
 - 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

- | | |
|--|---|
| <ul style="list-style-type: none"> · 14.1 UN-Number · DOT, ADR, IMDG, IATA | <p>UN0303</p> |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · DOT · ADR · IMDG, IATA | <p>AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge
0303 AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge, 0303
AMMUNITION, SMOKE with or without burster, expelling charge or propelling charge,</p> |

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- 14.3 Transport hazard class(es)

- DOT, ADR, IMDG, IATA



- 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

- EMS Number: Not applicable.
- Segregation groups F-B,S-X

- Segregation groups Chlorates

- 14.7 Transport in bulk according to Annex 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 without burster, expelling charge or propelling charge, 0303, 1.4G

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
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7757-79-1	potassium nitrate
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- TSCA (Toxic Substances Control Act):

All ingredients are listed.

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- **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	D
7440-50-8	copper	D

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

None of the ingredients are listed.

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

57-50-1	sucrose, pure	A4
7429-90-5	aluminium powder (pyrophoric)	A4

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

100-21-0	terephthalic acid
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- **Directive 2012/18/EU**

- **Named dangerous substances - ANNEX I**

None of the ingredients are listed.

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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
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)
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
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