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

Printing date August 12, 2015 Revision: August 12, 2015

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

- · 1.1 Product identifier
- · Trade name: Flameless Expulsion CN Grenade
- · Article number: 2041 (1011827)
- 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.

(800)255-3924, +1 (813)248-0585



SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008

Classifications listed are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200).

Hazard Statement H412 is not applicable to the OSHA US regulations.



flame

Flam. Sol. 2 H228 Flammable solid.



gas cylinder

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



skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.



health hazard

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

(Cont'd. on page 2)

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

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(Cont'd. from page 1)



Eye Dam. 1 H318 Causes serious eye damage.



Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction. STOT SE 3 H335 May cause respiratory irritation.

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

· Additional information:

0 % of the mixture consists of component(s) of unknown toxicity.

There are no other hazards not otherwise classified that have been identified.

· 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









GHS02 GHS04 GHS05 GHS06 GHS08

· Signal word Danger

· Hazard-determining components of labelling:

2-chloroacetophenone

· Hazard statements

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

H280 Contains gas under pressure; may explode if heated.

H228 Flammable solid.

H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.

H315 Causes skin irritation.

H318 Causes serious eye damage.

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

H317 May cause an allergic skin reaction. H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P284 [In case of inadequate ventilation] wear respiratory protection.

P261 Avoid breathing dust.

(Cont'd. on page 3)

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	(Cont'd. from page 2)	
P264	Wash thoroughly after handling.	
P280	Wear protective gloves/protective clothing/eye protection/face protection.	
P270	Do not eat, drink or smoke when using this product.	
P271	Use only outdoors or in a well-ventilated area.	
P272	Contaminated work clothing should not be allowed out of the workplace.	
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.	
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses,		
	if present and easy to do. Continue rinsing.	
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.	
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.	
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.	
P302+P352	IF ON SKIN: Wash with plenty of water.	
P330	Rinse mouth.	
P370+P378	In case of fire: Use for extinction: CO2, powder or water spray.	
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.	
P405	Store locked up.	
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.

- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- PBT: Not applicable.vPvB: Not applicable.
- · Explosive Product Notice

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

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

SECTION 3: Composition/information on ingredients

- · 3.2 Mixtures
- · Description: Mixture of substances listed below with nonhazardous additions.

(Cont'd. on page 4)

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

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	(Cont'd	. from page 3)
· Dangerous components:		
CAS: 124-38-9 EINECS: 204-696-9	carbon dioxide ♦ Press. Gas L, H280	50-100%
CAS: 532-27-4 EINECS: 208-531-1	2-chloroacetophenone	10-25%
CAS: 1309-48-4 EINECS: 215-171-9 Index number: 025-199-09-0	magnesium oxide substance with a Community workplace exposure limit	10-25%
CAS: 7440-50-8 EINECS: 231-159-6	copper substance with a Community workplace exposure limit	≤ 2,5%
CAS: 7440-66-6	zinc metal Aquatic Acute 1, H400; Aquatic Chronic 1, H410	≤ 2,5%

· Additional information:

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

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.

· After inhalation:

Supply fresh air.

Seek immediate medical advice.

Provide oxygen treatment if affected person has difficulty breathing.

· After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· After eye contact:

Protect unharmed eye.

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· After swallowing:

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

Breathing difficulty

Coughing

Allergic reactions

Irritant to skin and mucous membranes.

Strong irritant with the danger of severe eye injury.

May cause respiratory irritation.

(Cont'd. on page 5)

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(Cont'd. from page 4)

· Hazards

Toxic if swallowed, in contact with skin or if inhaled.

Danger of impaired breathing.

Causes serious eye damage.

· 4.3 Indication of any immediate medical attention and special treatment needed

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

Medical supervision for at least 48 hours.

If necessary oxygen respiration treatment.

Later observation for pneumonia and pulmonary oedema.

Treat skin and mucous membrane with antihistamine and corticoid preparations.

Contains chloroacetophenone (CN). May produce an allergic reaction.

If medical advice is needed, have product container or label at hand.

In cases of irritation to the lungs, initial treatment with cortical steroid inhalants.

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
- · For safety reasons unsuitable extinguishing agents: None.
- · 5.2 Special hazards arising from the substance or mixture

Contains gas under pressure; may explode if heated.

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.

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

(Cont'd. on page 6)

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

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(Cont'd. from page 5)

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.

· 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 in well ventilated areas.

· Information about fire - and explosion protection:

Emergency cooling must be available in case of nearby fire.

Pressurised container: May burst if heated.

- · 7.2 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.
- · 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:		
124-38-9 carbon dioxide		
IOELV (EU)	Long-term value: 9000 mg/m³, 5000 ppm	
PEL (USA)	Long-term value: 9000 mg/m³, 5000 ppm	
REL (USA)	Short-term value: 54,000 mg/m³, 30,000 ppm Long-term value: 9000 mg/m³, 5000 ppm	
TLV (USA)	Short-term value: 54,000 mg/m³, 30,000 ppm Long-term value: 9000 mg/m³, 5000 ppm	
EL (Canada)	Short-term value: 15000 ppm Long-term value: 5000 ppm	

(Cont'd. on page 7)

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

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	(Contid from nogo C)			
EV (Canada)	Short-term value: 54,000 mg/m³, 30,000 ppm (Cont'd. from page 6)			
	Long-term value: 9,000 mg/m³, 5,000 ppm			
532-27-4 2-cl	532-27-4 2-chloroacetophenone			
PEL (USA)	Long-term value: 0,3 mg/m³, 0,05 ppm			
REL (USA)	Long-term value: 0,3 mg/m³, 0,05 ppm			
TLV (USA)	Long-term value: 0,32 mg/m³, 0,05 ppm			
EL (Canada)	Long-term value: 0,05 ppm S			
EV (Canada)	Long-term value: 0,32 mg/m³, 0,05 ppm			
1309-48-4 ma	1309-48-4 magnesium oxide			
PEL (USA)	Long-term value: 15* mg/m³ fume; *total particulate			
TLV (USA)	Long-term value: 10* mg/m³ *as inhalable fraction			
EL (Canada)	Short-term value: 10** mg/m³ Long-term value: 10* 3** mg/m³ *inhalable fume;**respirable dust and fume			
EV (Canada)	Long-term value: 10 mg/m³ inhalable			
7440-50-8 co	pper			
PEL (USA)	Long-term value: 1* 0,1** mg/m³ as Cu *dusts and mists **fume			
REL (USA)	Long-term value: 1* 0,1** mg/m³ as Cu *dusts and mists **fume			
TLV (USA)	Long-term value: 1* 0,2** mg/m³ *dusts and mists; **fume; as Cu			
EL (Canada)	Long-term value: 1* 0,2** mg/m³ *dusts and mists; **fume, as Cu			
EV (Canada)	Long-term value: 0,2* 1** mg/m³ as copper, *fume;**dust and mists			

- **DNELs** No further relevant information available.
- · PNECs No further relevant information available.
- · Additional information: 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.

Avoid contact with the eyes and skin.

- Respiratory protection: Suitable respiratory protective device recommended.
- · Protection of hands:

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

(Cont'd. on page 8)

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· Material of gloves

(Cont'd. from page 7)

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

Face protection

· Body protection:

Protective work clothing

Impervious protective 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.

SECTION 9: Physical and chemical properties

- · 9.1 Information on basic physical and chemical properties
- · General Information
- · Appearance:

Form: Container with explosive release mechanism releasing powder

and compressed gas.

Colour: According to product specification

Odour:
Odour threshold:
pH-value:
Odourless
Not determined.
Not determined.

· Change in condition

Melting point/Melting range:
Boiling point/Boiling range:
Undetermined.

Flash point:
Not applicable.

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

Auto/Self-ignition temperature: Not determined.
 Decomposition temperature: Not determined.

• **Self-igniting:** Product is not self-igniting.

· Danger of explosion: Not determined.

(Cont'd. on page 9)

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

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(Cont'd. from page 8)

· Explosion limits:

Lower: Not determined. Upper: Not determined. · Oxidising properties Non-oxidising. · Vapour pressure: Not determined. Not determined. · Density: · Relative density Not determined. · Vapour density Not determined. · Evaporation rate Not applicable.

· Solubility in / Miscibility with

Not miscible or difficult to mix.

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

· Viscosity:

Dynamic: Not determined. Kinematic: Not determined.

· 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:

Contains gas under pressure; may explode if heated.

· 10.3 Possibility of hazardous reactions

Fire or projection hazard.

Toxic fumes may be released if heated above the decomposition point.

- 10.4 Conditions to avoid No further relevant information available.
- 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products:

Possible in traces: Carbon dioxide Carbon monoxide Nitrogen oxides

Sulphur oxides (SOx)

Chlorine compounds

SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity

Toxic if swallowed, in contact with skin or if inhaled.

(Cont'd. on page 10)

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

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(Cont'd. from page 9)

· LD/LC50 values relevant for classification:

532-27-4 2-chloroacetophenone

Oral LD50 50 mg/kg (rat)

- · Primary irritant effect:
- · Skin corrosion/irritation

Causes skin irritation.

· Serious eye damage/irritation

Causes serious eye damage.

· 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 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.

Toxic and/or corrosive effects may be delayed up to 24 hours.

· Acute effects (acute toxicity, irritation and corrosivity):

Toxic if swallowed, in contact with skin or if inhaled.

Causes serious eye damage.

May cause respiratory irritation.

Irritating to skin.

- · Repeated dose toxicity: Repeated exposures may result in skin and/or respiratory sensitivity.
- 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

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: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- 12.3 Bioaccumulative potential No further relevant information available.
- 12.4 Mobility in soil No further relevant information available.
- · Ecotoxical effects:
- · Remark: Harmful to fish

(Cont'd. on page 11)

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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.

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. 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.

UN1700

Tear gas candles

1700 TEAR GAS CANDLES

TEAR GAS CANDLES

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

SECTION 14: Transport information

- · 14.1 UN-Number
- · DOT, ADR, IMDG, IATA
- · 14.2 UN proper shipping name
- · DOT
- · ADR
- · IMDG, IATA
- · 14.3 Transport hazard class(es)
- · DOT



· Class 6.1 Toxic substances.

• **Label** 6.1, 4.1

(Cont'd. on page 12)

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

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· ADR



· Class 6.1 (TF3) Toxic substances.

Label 6.1(4.1)

· IMDG



· Class 6.1 Toxic substances.

• **Label** 6.1(4.1)

·IATA



· Class 6.1 Toxic substances.

• **Label** 6.1 (4.1)

· 14.4 Packing group

· DOT, ADR, IMDG, IATA

• 14.5 Environmental hazards: Not applicable.

• 14.6 Special precautions for user Warning: Toxic substances.

Danger code (Kemler): 64EMS Number: F-A,S-G

· 14.7 Transport in bulk according to Annex II of

Marpol and the IBC Code Not applicable.

· Transport/Additional information:

· ADR

· Limited quantities (LQ) 0

• Excepted quantities (EQ) Code: E0

Not permitted as Excepted Quantity

• Transport category 2
• Tunnel restriction code D/E

· IMDG

· Limited quantities (LQ)

• Excepted quantities (EQ) Code: E0

Not permitted as Excepted Quantity

· UN "Model Regulation": UN1700, TEAR GAS CANDLES, 6.1(4.1), II

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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):
532-27-4 2-chloroacetophenone
· 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 are listed.
· TLV (Threshold Limit Value established by ACGIH)
532-27-4 2-chloroacetophenone A4
1309-48-4 magnesium oxide A4
NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients are listed.
(Cont'd. on page 1

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· Canada

· Canadian Domestic Substances List (DSL)

All ingredients listed on DSL or NDSL.

· Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients are listed.

· Canadian Ingredient Disclosure list (limit 1%)

124-38-9 carbon dioxide

532-27-4 2-chloroacetophenone

1309-48-4 magnesium oxide

- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I

None of the ingredients are listed.

· 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.

· 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

H280 Contains gas under pressure; may explode if heated.

H300 Fatal if swallowed.

H311 Toxic in contact with skin.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H330 Fatal if inhaled.

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

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

H410 Very 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

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EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Press. Gas C: Gases under pressure: Compressed gas

Press. Gas L: Gases under pressure: Liquefied gas

Flam. Sol. 2: Flammable solids, Hazard Category 2

Acute Tox. 2: Acute toxicity, Hazard Category 2

Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 1: Acute toxicity, Hazard Category 1

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

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

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 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

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)

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Safety Data Sheets, Individual Manufacturers

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