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

· **1.1 Product identifier**

· **Trade name: MODEL 6340-OCV Aerosol Grenade**

· **Article number:** MODEL 6340-OCV
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **Application of the substance / the preparation** Explosive product.

· **1.3 Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
Combined Systems, Inc.
388 Kinsman Rd.
Jamestown, PA 16134
Phone: (724) 932-2177

· **1.4 Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

2 Hazards identification

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


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.


GHS07

Acute Tox. 4 H302 Harmful if swallowed.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

E; Explosive

R2: Risk of explosion by shock, friction, fire or other sources of ignition.

R5: Heating may cause an explosion.
· **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
· **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

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The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

· **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 GHS04 GHS07

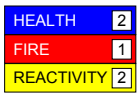
· **Signal word** Warning

· **Hazard-determining components of labelling:**
Oleoresin Capsicum
· **Hazard statements**
H204 Fire or projection hazard.
H280 Contains gas under pressure; may explode if heated.
H302 Harmful if swallowed.
· **Precautionary statements**
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P250 Do not subject to grinding/shock/friction.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P264 Wash thoroughly after handling.
P373 DO NOT fight fire when fire reaches explosives.
P372 Explosion risk in case of fire.
· **Hazard description:**
· **WHMIS-symbols:**
A - Compressed gas
D2B - Toxic material causing other toxic effects

· **NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 1
Reactivity = 2

· **HMIS-ratings (scale 0 - 4)**



Health = 2
Fire = 1
Reactivity = 2

· **HMIS Long Term Health Hazard Substances**	
7778-74-7	potassium perchlorate

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· **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.

3 Composition/information on ingredients

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

· **Dangerous components:**		
CAS: 811-97-2 EINECS: 212-377-0	Norflurane Press. Gas, H280	50-100%
CAS: 8023-77-6 EINECS: 288-920-0	Oleoresin Capsicum T R25; Xn R21; Xi R36/37/38 Acute Tox. 2, H300; Acute Tox. 3, H311 Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	<10%
CAS: 7778-74-7 EINECS: 231-912-9 Index number: 017-008-00-5	potassium perchlorate Xn R22; O R9 Ox. Sol. 1, H271 Acute Tox. 4, H302	<1,0%
CAS: 10294-40-3 EINECS: 233-660-5 Index number: 056-002-00-7	barium chromate Xn R20/22 Acute Tox. 4, H302; Acute Tox. 4, H332	<1,0%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

· **Notable Trace Components (< 0.1% w/w)**

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CAS: 592-87-0 EINECS: 209-774-6 Index number: 082-001-00-6	lead dithiocyanate T Repr. Cat. 1, 3 R61; Xn R62-20/22; N R50/53 R33
	Repr. 1A, H360Df; STOT RE 2, H373 Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Acute Tox. 4, H302; Acute Tox. 4, H332

4 First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Take affected persons out into the fresh air.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately rinse with water.
Clean with water and soap.
If skin irritation continues, 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.
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**
Coughing
Dizziness
Breathing difficulty
Blast injury if mishandled.
· **Hazards**
Danger of impaired breathing.
Danger of blast or crush-type injuries.
· **4.3 Indication of any immediate medical attention and special treatment needed**
Treat skin and mucous membrane with antihistamine and corticoid preparations.
In cases of irritation to the lungs, initial treatment with cortical steroid inhalants.
Product may produce physical injury if mishandled. Treatment of these injuries should be based on the blast and compression effects.

5 Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** None.

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

6 Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Use respiratory protective device against the effects of fumes/dust/aerosol.
Remove persons from danger area.
Protect from heat.
Isolate area and prevent access.
· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
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.

7 Handling and storage

· **7.1 Precautions for safe handling**
Handle with care. Avoid jolting, friction and impact.
Keep away from heat and direct sunlight.
Use only in well ventilated areas.
· **Information about fire - and explosion protection:**
Protect from heat.
Prevent impact and friction.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Avoid storage near extreme heat, ignition sources or open flame.
· **Information about storage in one common storage facility:** Store away from foodstuffs.

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· **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
· **7.3 Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
811-97-2 Norflurane	
WEEL (USA)	1000 ppm

· **DNELs** No further relevant information available.
· **PNECs** No further relevant information available.
· **Additional information:** The lists valid during the making were used as basis.

· **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.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
Wash hands before breaks and at the end of work.
· **Respiratory protection:**
Suitable respiratory protective device recommended.
Use suitable respiratory protective device in case of insufficient ventilation.
Wear positive pressure NIOSH or European EN149 vapor respirators when deploying product in large quantities.
· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
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.

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· **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.

9 Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Solid material Compressed gas
Colour:	Grey
· **Odour:**	Characteristic
· **Odour 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):**	Not determined.
· **Ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Self-igniting:**	Product is not self-igniting.
· **Danger of explosion:**	Risk of explosion by shock, friction, fire or other sources of ignition. Heating may cause an explosion.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure:**	Not determined.
· **Density at 20 °C:**	1,226 g/cm³
· **Relative density**	Not determined.

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· **Vapour density**	Not determined.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with water at 20 °C:**	1,93 g/l
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	Not determined.
· **9.2 Other information**	No further relevant information available.

10 Stability and reactivity

· **10.1 Reactivity**
· **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**
Toxic fumes may be released if heated above the decomposition point.
Danger of explosion.
· **10.4 Conditions to avoid**
Keep away from heat and direct sunlight.
Cartridge may detonate if case is punctured or severely damaged.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** Danger of toxic fluorine based pyrolysis products.

11 Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
Asphyxiant gas.
Danger through skin adsorption.

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12 Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** The product contains materials that are harmful to the environment.
· **12.2 Persistence and degradability** The product is biodegradable after prolonged adaptation.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
This statement was deduced from products with a similar structure or composition.
Due to available data on eliminability/decomposition and bioaccumulation potential a prolonged damage of the environment is unlikely.
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.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

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.

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

14 Transport information

· **14.1 UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1700
· **14.2 UN proper shipping name**	
· **DOT**	Tear Gas Candles
· **ADR**	Tear Gas Candles, UN1700
· **IMDG**	TEAR GAS CANDLES, MARINE POLLUTANT
· **IATA**	TEAR GAS CANDLES

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· **14.3 Transport hazard class(es)**

· **DOT**

· **Class**	6.1 Toxic substances.
· **Label**	6.1+1.4G+8

· **ADR, IMDG**

· **Class**	6.1 Toxic substances.
· **Label**	6.1+1.4G+8

· **IATA**

· **Class**	6.1 Toxic substances.
· **Label**	6.1+1.4G+8

· **14.4 Packing group**	
· **DOT, ADR, IMDG, IATA**	II
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	Yes Symbol (fish and tree)
· **Special marking (ADR):**	Symbol (fish and tree)
· **14.6 Special precautions for user**	Warning: Toxic substances.
· **EMS Number:**	F-A,S-Q
· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	0
· **UN "Model Regulation":**	UN1700, TEAR GAS CANDLES, 6.1 (1.4G+8), II

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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 is listed.

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

10294-40-3	barium chromate

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.

· **Proposition 65 (California):**
· **Chemicals known to cause cancer:**
Present in trace quantities.

10294-40-3	barium chromate
7440-02-0	nickel
7439-92-1	lead

· **Chemicals known to cause reproductive toxicity for females:**
Present in trace quantities.

10294-40-3	barium chromate

· **Chemicals known to cause reproductive toxicity for males:**
Present in trace quantities.

10294-40-3	barium chromate

· **Chemicals known to cause developmental toxicity:**
Present in trace quantities.

10294-40-3	barium chromate
7439-92-1	lead

· **Carcinogenic Categories**

· **EPA (Environmental Protection Agency)**

7778-74-7	potassium perchlorate	NL

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

10294-40-3	barium chromate	1
7440-02-0	nickel	1

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

10294-40-3	barium chromate	A1

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

10294-40-3	barium chromate
7440-02-0	nickel

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

10294-40-3	barium chromate

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· **Canada**

· **Canadian Domestic Substances List (DSL)**
All ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**	
10294-40-3	barium chromate

· **Canadian Ingredient Disclosure list (limit 1%)**
None of the ingredients is listed.

· **15.2 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.

· **Relevant phrases**

H271 May cause fire or explosion; strong oxidiser.
H280 Contains gas under pressure; may explode if heated.
H300 Fatal if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

R20/22 Harmful by inhalation and if swallowed.
R21 Harmful in contact with skin.
R22 Harmful if swallowed.
R25 Toxic if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.
R9 Explosive when mixed with combustible material.

· **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 Harmonized System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)

· **Sources**

SDS Prepared by:
ChemTel Inc.
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Tampa, Florida USA 33602-2902
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573

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Website: www.chemtelinc.com