

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: May 11, 2017

Revision: May 11, 2017

1 Identification

- **Product identifier**
- **Trade name:** Defense Technology® 587 CS Dust
- **Product code:** 4015 (1013420)
- **Recommended use and restriction on use**
- **Recommended use:** Crowd Control Device
- **Restrictions on use:** Contact manufacturer/supplier
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
Safariland, LLC
13386 International Parkway
Jacksonville, FL 32218
Customer Care (800) 347-1200
- **Information department:** Customer Care Department
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)



2 Hazard(s) identification

- **Classification of the substance or mixture**
- Flam. Aerosol 2 H223 Flammable aerosol.
- Press. Gas H280 Contains gas under pressure; may explode if heated.
- Acute Tox. 4 H332 Harmful if inhaled.
- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2B H320 Causes eye irritation.
- Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin Sens. 1 H317 May cause an allergic skin reaction.
- STOT SE 3 H335 May cause respiratory irritation.
- Simple Asphyxiant May displace oxygen and cause rapid suffocation.

- **Label elements**

- **GHS label elements**

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

- **Hazard pictograms:**



GHS02 GHS04 GHS07 GHS08

- **Signal word:** Danger

- **Hazard statements:**

H223 Flammable aerosol.
H280 Contains gas under pressure; may explode if heated.
H332 Harmful if inhaled.
H315+H320 Causes skin and eye irritation.

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

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

May displace oxygen and cause rapid suffocation.

Precautionary statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P211 Do not spray on an open flame or other ignition source.

P251 Pressurized container: Do not pierce or burn, even after use.

P261 Avoid breathing dust.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective gloves and eye protection.

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

P302+P352 IF ON SKIN: Wash with plenty of water.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER/doctor if you feel unwell.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

P362+P364 Take off contaminated clothing and wash it before reuse.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:







Contains [(2-chlorophenyl)methylene]malononitrile. May produce an allergic reaction.

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

3 Composition/information on ingredients

Chemical characterization: Mixtures

Components:

29118-24-9	(1E)-1,3,3,3-Tetrafluoro-1-propene  Press. Gas, H280 Simple Asphyxiant	>75%
79-24-3	nitroethane  Flam. Liq. 3, H226  Acute Tox. 4, H302; Acute Tox. 4, H332	10-20%
2698-41-1	[(2-chlorophenyl)methylene]malononitrile  Acute Tox. 3, H301; Acute Tox. 2, H330  Resp. Sens. 1, H334  Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	<1.0%

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· **Additional information:**

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

4 First-aid measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Take affected persons out into the fresh air.

· **After inhalation:**

Supply fresh air.

Provide oxygen treatment if affected person has difficulty breathing.

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

· **After skin contact:**

Immediately rinse with water.

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; immediately call for medical help.

· **Most important symptoms and effects, both acute and delayed:**

Asthma attacks

Breathing difficulty

Coughing

Allergic reactions

Dizziness

Irritating to eyes, respiratory system and skin.

Disorientation

· **Danger:**

Danger of impaired breathing.

Harmful if inhaled.

· **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 edema.

Treat skin and mucous membrane with antihistamine and corticoid preparations.

Contains [(2-chlorophenyl)methylene]malononitrile. 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 corticoid steroid inhalants.

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5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** None.
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
Danger of receptacles bursting because of high vapor pressure if heated.
- **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.
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
Cool endangered receptacles with water in flooding quantities.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Use respiratory protective device against the effects of fumes/dust/aerosol.
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.
Ensure adequate ventilation.
Isolate area and prevent access.
- **Environmental precautions**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Methods and material for containment and cleaning up**
Allow to evaporate.
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling:**
Avoid splashes or spray in enclosed areas.
Use only in well ventilated areas.

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- **Information about protection against explosions and fires:**
Keep respiratory protective device available.
Emergency cooling must be available in case of nearby fire.
Flammable aerosol.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Observe official regulations on storing packagings with pressurized containers.
Provide ventilation for receptacles.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.
- **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

· Control parameters

· Components with limit values that require monitoring at the workplace:

79-24-3 nitroethane

PEL (USA)	Long-term value: 310 mg/m ³ , 100 ppm
REL (USA)	Long-term value: 310 mg/m ³ , 100 ppm
TLV (USA)	Long-term value: 307 mg/m ³ , 100 ppm
EL (Canada)	Long-term value: 100 ppm
EV (Canada)	Long-term value: 306 mg/m ³ , 100 ppm
LMPE (Mexico)	Long-term value: 100 ppm

2698-41-1 [(2-chlorophenyl)methylene]malononitrile

PEL (USA)	Long-term value: 0.4 mg/m ³ , 0.05 ppm
REL (USA)	Ceiling limit value: 0.4 mg/m ³ , 0.05 ppm Skin
TLV (USA)	Ceiling limit value: 0.39 mg/m ³ , 0.05 ppm Skin
EL (Canada)	Ceiling limit value: 0.05 ppm Skin
EV (Canada)	Ceiling limit value: 0.4 mg/m ³ , 0.05 ppm Skin
LMPE (Mexico)	Ceiling limit value: 0.05 ppm A4, PIEL

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.

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Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

· **Engineering controls:** Provide adequate ventilation.

· **Breathing equipment:**

Wear positive pressure NIOSH or European EN149 vapor respirators when deploying product in large quantities.

Suitable respiratory protective device recommended.

· **Protection of hands:**



Protective gloves

· **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

· **Body protection:**

Protective work clothing

Protection may be required for spills.

· **Limitation and supervision of exposure into the environment**

No relevant information available.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· **Appearance:**

Form: Aerosol

Color: Whitish

· **Odor:** Pungent

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Melting point/Melting range:** Not applicable, as aerosol.

· **Boiling point/Boiling range:** Not applicable, as aerosol.

· **Flash point:** Not applicable, as aerosol.

· **Flammability (solid, gaseous):** Not applicable.

· **Auto-ignition temperature:** >260 °C (>500 °F) (Estimate)

· **Decomposition temperature:** Not determined.

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

· **Explosion limits**

Lower: Not determined.

Upper: Not determined.

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· Oxidizing properties:	Not determined.
· Vapor pressure:	Not determined.
· Density:	
Relative density:	Not determined.
Vapor density:	Not determined.
Evaporation rate:	Not applicable.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Other information	No relevant information available.

10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
Danger of receptacles bursting because of high vapor pressure if heated.
- **Possibility of hazardous reactions**
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomized.
Flammable aerosol.
Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid** No relevant information available.
- **Incompatible materials** No relevant information available.
- **Hazardous decomposition products**

Under fire conditions only:
Fluorinated hydrocarbons
Chlorine compounds
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimates)

Oral	LD50	>2000 mg/kg (rat)
Inhalative	LC50/4h	10-20 mg/l

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79-24-3 nitroethane

Oral	LD50	1100 mg/kg (rat)
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2698-41-1 [(2-chlorophenyl)methylene]malononitrile

Oral	LD50	178 mg/kg (rat)
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- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Irritating effect.
- **Sensitization:** May cause sensitisation by inhalation and skin contact.

· IARC (International Agency for Research on Cancer):

None of the ingredients are listed.

· NTP (National Toxicology Program):

None of the ingredients are listed.

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

None of the ingredients are listed.

· Probable route(s) of exposure:

Inhalation.
Eye contact.
Skin contact.

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

Irritating to eyes, respiratory system and skin.
Harmful if inhaled.

May displace oxygen and cause rapid suffocation.

- **Repeated dose toxicity:** May cause sensitisation by inhalation and skin contact.
- **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.

12 Ecological information

· Toxicity

· Aquatic toxicity

2698-41-1 [(2-chlorophenyl)methylene]malononitrile

EC50	0.2-0.3 mg/kg (Oncorhynchus mykiss)
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- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.

· Additional ecological information

· General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packagings**

- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**

· DOT, ADR, IMDG

UN1950

· IATA

FORBIDDEN

· **UN proper shipping name**

· DOT, ADR, IMDG

AEROSOLS, flammable, containing substances in Division 6.1, Packing Group II (Tear Gas Devices)

· IATA

FORBIDDEN

· **Transport hazard class(es)**

· DOT



· Class

2 Gases

· Label

2.1, 6.1

· ADR



· Class

2 5TF Gases

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· Label	2.1+ 6.1
· IMDG	
 	
· Class	2 Gases
· Label	2.1/6.1
· IATA	FORBIDDEN
· Packing group	Aerosols are not assigned a packing group.
· Environmental hazards	Not applicable.
· Special precautions for user	Warning: Gases
· EMS Number:	F-D,S-U
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

15 Regulatory information

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

Section 302 (extremely hazardous substances):

None of the ingredients are listed.

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act)

All ingredients are listed.

Proposition 65 (California)
Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **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.

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

All ingredients listed on DSL or NDSL.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** May 11, 2017 / -

· **Abbreviations and acronyms:**

ADR: 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

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bio-accumulable, Toxique

vPvB: very Persistent and very Bioaccumulative

NIOSH: l'Institut national de recherche sur la sécurité et la santé au travail / National Institute for Occupational Safety (États-Unis)

OSHA: Occupational Safety & Health Administration

Flam. Aerosol 2: Aerosols – Category 2

Press. Gas: Gases under pressure – Compressed gas

Press. Gas: Gases under pressure – Liquefied gas

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 2: Acute toxicity – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

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

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

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel Inc.

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