



# CITY OF SANTA BARBARA

## Waterfront Department

### *Memorandum*

**DATE:** July 8, 2022

**TO:** Jazmin LeBlanc and the IPM Advisory Committee

**FROM:** Lyn Burich, Project Engineer

**SUBJECT:** REQUEST FOR IPM Exemption for the Fumigation of 2 City Buildings

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The Waterfront Department is requesting review for exemption by the IPM Advisory Committee to fumigate the following structures:

- 1) 132 Harbor Way Building – This structure is approximately 8,000 square feet, which is open to the public.
- 2) 125 Harbor Way Building – This structure is approximately 4,500 square feet.

There is no history of prior fumigation or other treatment for the above-listed buildings. Unfortunately, the damage is beyond localized treatment, and in all cases fumigation was deemed as the proper course of action by the Facilities Division and the fumigator for multiple reasons.

If you have any questions regarding this request, please contact Lyn Burich, Project Engineer, at (805) 897-1964

Attachments: IPM exemption request packages  
Applications  
Exhibit



**Lyn Burich**

*Project Engineer*

CITY OF SANTA BARBARA, Waterfront Department

(805) 897-1964

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**City of Santa Barbara**  
**MATERIAL EXEMPTION REQUEST FOR PESTICIDE APPLICATION**

Name Lyn Burich Department Watefront Phone 805 897-1964

Pesticide Applicator (employee or company) \_\_\_\_\_ Phone \_\_\_\_\_

Application Site 125 Harbor Way Specific Location \_\_\_\_\_

Date(s) of Application \_\_\_\_\_ Date of Request \_\_\_\_\_

Product Name Vikane Chloropicrin Active Ingredient Sulfural Fluoride Chloropicrin

Number of Applications:      One-time      Other \_\_\_\_\_

Type:              Emergency      Trial      Programmatic      Other \_\_\_\_\_

Product type:      Herbicide      Insecticide      Fungicide      Other \_\_\_\_\_

Application:      Ornamental      Turf      Golf      Vector Control      Park Tree      Street Tree  
                   Right of Way      Vertebrate pest      Other termite eradication

Is the pesticide on the *Approved Materials List*?      No      Yes     If yes, provide the zone (color) \_\_\_\_\_

If the pesticide is not on the *Tiered Materials List*, provide the following screening information. See the IPM Strategy and the *Tiered Materials List* for instructions on screening the pesticide.

EPA Reg # 1015-78, 62341-15     Signal Danger     Estimated Tier 1

Restricted      No      Yes/Describe Inhalation toxicity

P Waste \_\_\_\_\_     PBT \_\_\_\_\_     WA PBT \_\_\_\_\_     Persistent \_\_\_\_\_     Mobil \_\_\_\_\_

Cancer \_\_\_\_\_     Repro \_\_\_\_\_     Neuro \_\_\_\_\_     Endocrine \_\_\_\_\_

Bird \_\_\_\_\_     Fish \_\_\_\_\_     Bees \_\_\_\_\_     Wildlife \_\_\_\_\_

Attach product label and MSDS to this form.

**Describe the pest problem.**

There is visible termite damage throughout the structure. There is likely damage in concealed areas. Fumigation is recommended by the pest control company.

**Describe the management goals and objectives for this site.**

To maintain the structure in a structurally-safe and thereby usable condition. This building is a City of Santa Barbara recognized historic building, which is also open to the general public. Fumigation work is provided with a three year warranty from the contractor.

**What is the damage threshold for this pest at this site?**

Fumigation for the drywood termite populations is past due. As the Project Engineer, my opinion is of concurrence with that of the pest control company, that successful fumigation of the building will be highly beneficial to maintaining structural stability. No records were found of prior fumigation.

**Describe the monitoring of the pest and potential predators that was conducted and the control methods previously used at the site.**

Fumigation history is not available. Internal reports and site visits have been ongoing as part of general building inspections by City staff, with notice of termites.

**Describe how the product would be applied including frequency, concentration, and method of application.**

Contract for proposed work requires project execution be in accordance with the manufacturer's guidelines and instructions. The structure is planned for a one-time 48-hour tenting. The manufacturer's recommended concentrations of 3850 ppm (1 lb/1000ft<sup>3</sup>) of gas. The manufacturer recommend Chloropicrin introduction 10 minutes prior to release of the fumigant. The manufacturer's recommended dispersion of the gas from the pressure vessels to the tented volume from the exterior via tubing that terminates in the airstream of multiple fans for increased dispersion.

**City of Santa Barbara**  
**MATERIAL EXEMPTION REQUEST FOR PESTICIDE APPLICATION**

**What non-target impacts are anticipated?**

Building will be closed, sealed and otherwise barred access to from humans. Pests will not be cleared and will be killed. Spiders and ants will, unfortunately, also be killed.

**How does the use of this product help achieve the site management goals? Note if this is curative or preventative.**

The product is recognized for its fumigation purposes and will rid the infestation populations from eating at the structure. Maintaining structural integrity is the main goal. Fumigation is considered palliative care for the structure themselves and curative in regards to ailments affecting the building lifespan (considering the lack of prior fumigation).

**How will the effectiveness of this product be monitored? Include expected results and indicators of success.** The building are periodically investigated for termite activity. No visible termite presence for three years, with minor activity in the following years would be a success.

**Describe site conditions, for example consider the following: restricted access, distance from a creek or body of water, degree of runoff, site is a pesticide-free zone, etc.**

The building has unrestricted access along approximately 500 feet of frontage to public right-of-way, mainly on its west side (See attached Exhibit B).

The building is near the harbor and no run off from this methos is anticipated. Being a city building, property is considered a pesticide-free zone.

**List alternatives considered, alternatives implemented and why they were eliminated.**

Heat treatment was not considered due to the building having critical electrical equipment that must remain in place during fumigation. The building also has automatic fire sprinklers that will open at heat treatment temperatures. Spot treatment was not considered sufficient due to the termite evidence in multiple locations and suspected in concealed areas.

**Justification: describe why is applying this pesticide is the best solution and why a less-hazardous chemical, non-chemical option or taking no action is not feasible.**

At this time, fumigation with the proposed chemicals is the most cost effective method, most thorough and longest lasting treatment method available. Taking no action is considered infeasible due to the remaining life expectancy of the building.

**Was outside expertise utilized?  No  Yes / Describe**

The pest control company was consulted, and provided comments, and selected the fumigants.

**Describe future plans to prevent using the chemical again.**

With more regular inspections, we anticipate that using spot treatment will be sufficient to maintain the infestation to relatively minor levels.

**Signatures** \_\_\_\_\_

Department IPM Coordinator

City IPM Coordinator

**Completed by the City of Santa Barbara Staff IPM Committee**

Vote Tally \_\_\_\_ Disposition:  Approved  Denied/Reason \_\_\_\_\_

If approved, follow the attached best management practices.

Comments:

**City of Santa Barbara**  
**MATERIAL EXEMPTION REQUEST FOR PESTICIDE APPLICATION**

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**City of Santa Barbara  
MATERIAL EXEMPTION REQUEST FOR PESTICIDE APPLICATION**

AGENDA ITEM 2A

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If approved, follow the attached best management practices.

Comments:



# City of Santa Barbara - Waterfront Dept.



### Legend

- City Limits
- Assessor's Parcels - City
- 2020 Aerial Imagery
- Red: Band\_1
- Green: Band\_2
- Blue: Band\_3
- World Street Map

1: 500



83.333      0      41.667      83.333 Feet

WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere  
© City of Santa Barbara      Reported on 06/15/2022 01:28 PM

### MAP DISCLAIMER

This service has been provided to allow a visual display of City information. Every effort has been made to ensure the accuracy of the map and data. The City of Santa Barbara assumes no responsibility arising from the use of this information. THE MAPS AND ASSOCIATED DATA ARE PROVIDED WITHOUT A WARRANTY OF ANY KIND. This map was created using the City of Santa Barbara Mapping Analysis and Printing System application.

### Notes

Fumigation Area Fence Exhibit  
125 and 132 Harbor Way

## 1. IDENTIFICATION

**Product identifier****Product Name** Vikane™**Other means of identification****SDS #** DOUG-005  
**Document ID #** SDS.VIKANE.English.20190715.1  
**Registration Number(s)** EPA Reg. No. 1015-78  
**UN/ID No** UN2191**Recommended use of the chemical and restrictions on use****Recommended Use** End Use Fumigant.**Details of the supplier of the safety data sheet****Supplier Address**Douglas Products and Packaging Company, LLC  
1550 East Old 210 Highway  
Liberty, MO 64068  
Customer Information Number: 800-223-3684**Emergency telephone number****Emergency Telephone** 1-844-845-3129 or 1-352-326-7641

## 2. HAZARDS IDENTIFICATION

**Emergency Overview:** This chemical is a product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-EPA registered chemicals. Please see Section 15 for additional EPA information.

**Appearance:** Colorless gas**Physical state:** Gas**Odor:** Odorless**Classification**

Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Gases)	Category 2
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Carcinogenicity	Category 1B
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 2
Gases under pressure	Liquefied gas

**Signal Word****Danger****Hazard statements**Toxic if swallowed  
Fatal if inhaled  
May cause cancer  
Causes damage to organs  
May cause damage to organs through prolonged or repeated exposure  
Contains gas under pressure; may explode if heated

**Precautionary Statements - Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Wear respiratory protection

**Precautionary Statements - Response**

If exposed or concerned: Get medical advice/attention  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Immediately call a poison center or doctor/physician  
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
 Rinse mouth

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed  
 Protect from sunlight

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other hazards**

Very toxic to aquatic life

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Sulfuryl fluoride	2699-79-8	99.8
Other ingredients	Proprietary	0.1

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

### 4. FIRST AID MEASURES

**Description of first aid measures****General Advice**

Provide this SDS to medical personnel for treatment. Any additional important symptoms and effects are described in Section 11: Toxicology Information.

**Eye Contact**

Liquid: In case of frostbite, immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention promptly, preferably from an ophthalmologist.  
 Gas: No treatment required.



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<b>Skin Contact</b>	Liquid: Immediately apply water to contaminated area of clothing before removing. Once area has thawed, remove contaminated clothing, shoes, and other items covering skin. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice. Thoroughly aerate clothing and shoes contacted by liquid fumigant before wearing again. Gas: No treatment required. No decontamination of clothing or shoes covering the skin is required.
<b>Inhalation</b>	Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel. If the person is not breathing and has no pulse, consider cardiopulmonary resuscitation (CPR); use pocket resuscitation mask, bag valve mask etc., to avoid risk of poisoning rescuer. To prevent pulmonary edema have the person inhale 5 shots of an aerosol corticosteroid metered dose inhaler (if available), such as beclomethasone or fluticasone, etc., every 10 minutes until the person is evaluated by a physician.
<b>Ingestion</b>	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
<b>Self-Protection of the First Aider</b>	First Aid responders should pay attention to self-protection and use the recommended protective clothing (gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

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

<b>Symptoms</b>	Fatal if inhaled. Toxic if swallowed. See Section 11: Toxicological Information of this SDS for more detailed symptoms.
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**Indication of any immediate medical attention and special treatment needed**

<b>Notes to Physician</b>	Maintain adequate ventilation and oxygenation of the patient. Sulfuryl fluoride is a gas which has no warning properties such as odor or eye irritation. The prediction of possible human effects is based in part on observations made on laboratory animals. Treat for frostbite from exposure to the liquid fumigant if present (eyes, skin) with gentle rewarming by water irrigation for at least 15 minutes. Clinical observation is essential. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. There is no known antidote for overexposure to sulfuryl fluoride. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. It is predicted that persons exposed to sulfuryl fluoride will show little evidence of intoxication at first, unless the concentration is very high (greater than 400 ppm). Early symptoms of exposure to sulfuryl fluoride are respiratory irritation and central nervous system depression. Excitation may follow. Slowed movement, reduced awareness, and slow or garbled speech may be noted. It is essential to keep such an individual at bed rest for at least 24 hours. Clinical observations should be directed at the pulmonary, hepatic, and renal systems. Prolonged exposure can produce lung irritation, pulmonary edema, nausea, and abdominal pain. Repeated exposure to high concentrations can result in significant lung and kidney damage. Convulsions may ensue with respiratory arrest being the terminal event. Assisted respiration may be necessary. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Respiratory symptoms, including pulmonary edema, may be delayed. Consider administering a complete aerosol corticosteroid metered dose inhaler (100-150 shots) or equivalent as initial preventive treatment for incipient pulmonary edema. Consider administering 250-1000 mg prednisolone IV on the first day of treatment. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).
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## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

This material does not burn. If exposed to fire from another source, use suitable extinguishing agent for that fire.

**Unsuitable Extinguishing Media** Not determined.

### Specific Hazards Arising from the Chemical

Container may rupture from gas generation in a fire situation.

**Hazardous combustion products:** Decomposition products can include and are not limited to: Hydrogen fluoride. Sulfur oxides. Toxic gases are released during decomposition.

### Protective equipment and precautions for firefighters

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Move container from fire area if this is possible without hazard. Contain fire water run-off if possible. Fire water runoff, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this SDS.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during firefighting operations. If contact is likely, change to full chemical resistant firefighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions** Isolate area. Stay upwind and out of low areas. Ventilate area of leak or spill. Use personal protection recommended in Section 8.

### Environmental precautions

**Environmental precautions** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

### Methods and material for containment and cleaning up

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Clean-Up** Isolate area until gas has dispersed. Small spills: Knock down and dilute vapors with water fog or spray. Apply vapor suppression foams until spill can be cleaned up. Use non-sparking tools in cleanup operations.

Large spills: Contact Douglas Products for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep container tightly closed and store in a cool, dry and well-ventilated place. Keep/store only in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

**Incompatible Materials** Strong bases.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuryl fluoride 2699-79-8	STEL: 10 ppm TWA: 5 ppm TWA: 2.5 mg/m <sup>3</sup> F	TWA: 5 ppm TWA: 20 mg/m <sup>3</sup> TWA: 2.5 mg/m <sup>3</sup> F (vacated) TWA: 5 ppm (vacated) TWA: 20 mg/m <sup>3</sup> (vacated) TWA: 2.5 mg/m <sup>3</sup> (vacated) STEL: 10 ppm (vacated) STEL: 40 mg/m <sup>3</sup>	IDLH: 200 ppm IDLH: 250 mg/m <sup>3</sup> F TWA: 5 ppm TWA: 20 mg/m <sup>3</sup> STEL: 10 ppm STEL: 40 mg/m <sup>3</sup>
Other ingredients	TWA: 10 ppm	TWA: 50 ppm (vacated) TWA: 1 ppm (vacated) TWA: 4 mg/m <sup>3</sup> (vacated) STEL: 2 ppm (vacated) STEL: 8 mg/m <sup>3</sup> Ceiling: 100 ppm	IDLH: 50 ppm TWA: 1 ppm TWA: 4 mg/m <sup>3</sup> STEL: 2 ppm STEL: 8 mg/m <sup>3</sup>

**Other Information** RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. **APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.**

### Appropriate engineering controls

**Engineering Controls** Apply technical measures to comply with the occupational exposure limits. Showers. Eyewash stations. Ventilation systems. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. Lethal concentrations may exist in areas with poor ventilation.

### Individual protection measures, such as personal protective equipment

**Eye/Face Protection** For handling the gas, wear safety glasses (with side shields). When contact with the liquid (condensed gas) is possible, wear chemical goggles. Refer to 29 CFR 1910.133 for eye and face protection regulations.

**Skin and Body Protection** Wear clean, body-covering clothing. Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

**Respiratory Protection** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. When respirator protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply. Refer to 29 CFR 1910.134 for respiratory protection requirements.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Gas	<b>Odor</b>	Odorless
<b>Appearance</b>	Colorless gas	<b>Odor Threshold</b>	Odorless
<b>Color</b>	Colorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	Not applicable	
<b>Melting point / freezing point</b>	-137°C / -215°F	
<b>Boiling point / boiling range</b>	-54°C / -65°F	
<b>Flash point</b>	Not applicable	
<b>Evaporation Rate</b>	Not applicable	
<b>Flammability (Solid, Gas)</b>	Not Flammable	
<b>Flammability Limit in Air</b>		
<b>Upper flammability or explosive limits</b>	Not applicable	
<b>Lower flammability or explosive limits</b>	Not applicable	
<b>Vapor Pressure</b>	18,000 hPa	(at 20°C/68°F)
<b>Vapor Density</b>	3.5	(at 20°C/68°F) (Air=1)
<b>Relative Density</b>	1.35	(Water=1)
<b>Water Solubility</b>	1.04 g/L 20°C, Unbuffered	
<b>Solubility in other solvents</b>	Not determined	
<b>Partition Coefficient</b>	Not determined	
<b>Autoignition temperature</b>	Not applicable	
<b>Decomposition temperature</b>	Not determined	
<b>Kinematic viscosity</b>	Not determined	
<b>Dynamic Viscosity</b>	Not determined	
<b>Explosive Properties</b>	Not determined	
<b>Oxidizing Properties</b>	Not determined	

### Other information

**Softening Point** NOTE: The physical data presented above are typical values and should not be construed as a specification

## 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

None under normal processing.

**Hazardous Polymerization** Hazardous polymerization does not occur.

### Conditions to Avoid

Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

### Incompatible materials

Strong bases.

### Hazardous decomposition products

Decomposition products can include and are not limited to: Hydrogen fluoride. Sulfur oxides. Toxic gases are released during

decomposition.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Eye Contact</b>	No hazard from gas. Liquid may cause frostbite.
<b>Skin Contact</b>	Prolonged skin contact is unlikely to result in absorption of harmful amounts. The dermal LD50 of Sulfuryl fluoride has not been determined.
<b>Inhalation</b>	Fatal if inhaled. Vapor concentrations are attainable which may be fatal with single exposure. Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs.
<b>Ingestion</b>	Toxic if swallowed. Swallowing is unlikely because of the physical state. Single dose oral LD50 of Sulfuryl fluoride has not been determined.

### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfuryl fluoride 2699-79-8	-	-	= 991-1122 ppm (Rat) 4 h
Other ingredients	= 680 mg/kg (Rat)	= 4890 mg/kg (Rabbit)	= 4 mg/L (Rat) 6 h

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Symptoms</b>	Please see section 4 of this SDS for symptoms.
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### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	Essentially nonirritating to skin. Liquid may cause frostbite upon skin contact.
<b>Germ cell mutagenicity</b>	Most in vitro genetic toxicity studies were negative, but some were positive due to artifacts associated with the test system. Animal genetic toxicity studies were negative.
<b>Carcinogenicity</b>	Carcinogenic potential is unknown.

Chemical name	ACGIH	IARC	NTP	OSHA
Sulfuryl fluoride 2699-79-8		Group 2A		X
Other ingredients		Group 2B	Reasonably Anticipated	X

<b>Reproductive toxicity</b>	In animal studies, did not interfere with reproduction.
<b>Teratogenicity</b>	Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.
<b>STOT - single exposure</b>	Causes damage to organs. Route of Exposure: Inhalation Target Organs: Kidney.
<b>STOT - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure. In animals, effects have been reported on the following organs: Central nervous system, Kidney, Lung, Respiratory tract, Thyroid observations in animals include: Convulsions, Tremors. May cause fluorosis of teeth and bones.

### Numerical measures of toxicity

<b>Oral LD50</b>	100.20 mg/kg
<b>Gas</b>	100.20 mg/L
<b>ATEmix (inhalation-dust/mist)</b>	0.50 mg/L

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Very toxic to aquatic life.

### Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
Sulfuryl fluoride	EyC50, Pseudokirchneriella subcapitata (green algae), static test, 96 Hour, Growth inhibition (cell density reduction), 3.05 mg/l EbC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Biomass, 0.58 mg/l ErC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate inhibition, 1.13 mg/l	LC50, Danio rerio (zebra fish), static test, 96 Hour, 0.89 mg/l	EC50, Daphnia magna (Water flea), static test, 48 Hour, 0.62 mg/l
Other ingredients	433: 96 h Pseudokirchneriella subcapitata mg/L EC50 166: 96 h Desmodesmus subspicatus mg/L EC50 static	225: 96 h Oncorhynchus mykiss mg/L LC50 static 110 - 123: 96 h Pimephales promelas mg/L LC50 flow-through 230 - 710: 96 h Lepomis macrochirus mg/L LC50 flow-through	140 - 190: 48 h Daphnia magna mg/L EC50 Static

### Persistence/Degradability

Chemical degradation (hydrolysis) is expected in the environment.

### Bioaccumulation

Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Partition coefficient: n-octanol/water (log Pow): 0.41 Estimated.

### Mobility

Potential for mobility in soil is very high (Koc between 0 and 50). Partition coefficient (Koc): 6 Estimated

Chemical name	Partition coefficient
Other ingredients	1.45

### Other Adverse Effects

#### Toxicity to Above Ground Organisms

LC50, Apis mellifera (bees), 2 Hour, mortality, 6.5mg/l

LC50, Colinus virginianus (Bobwhite quail), 4 Hour, 1,844 ppm

## 13. DISPOSAL CONSIDERATIONS

### Waste Treatment Methods

#### **Disposal of Wastes**

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

#### **Contaminated Packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**US EPA Waste Number**

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Other ingredients	U077	Included in waste streams: F024, F025, F039, K018, K019, K020, K029, K030, K096	0.5 mg/L regulatory level	U077

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Other ingredients	Category I - Volatiles		Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	

**California Hazardous Waste Status**

Chemical name	California Hazardous Waste Status
Sulfuryl fluoride 2699-79-8	Toxic
Other ingredients	Toxic Ignitable

**14. TRANSPORT INFORMATION****Note**

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

**DOT**

UN/ID No UN2191  
Proper Shipping Name Sulfuryl Fluoride  
Hazard class 2.3

**IATA**

Forbidden

**IMDG**

UN number UN2191  
Proper Shipping Name Sulfuryl Fluoride  
Transport hazard class(es) 2.3  
Marine Pollutant Yes

**15. REGULATORY INFORMATION****International Inventories**

Chemical name	TSCA	DSL/NDSL	EINECS/E LINCS	ENCS	IECSC	KECL	PICCS	AICS
Sulfuryl fluoride	X	X	X	X	X	X	X	
Thionyl fluoride	X	X	X					
Ethylene dichloride	X	X	X	X	X	X	X	X

**Legend:**

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Sulfuryl fluoride - 2699-79-8	2699-79-8	99.8	1.0
Other ingredients	Proprietary	0.1	0.1

**US State Regulations****California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Other ingredients	Carcinogen

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sulfuryl fluoride 2699-79-8	X	X	X
Other ingredients	X	X	X

**EPA Pesticide Registration Number** EPA Reg. No. 1015-78

**EPA Statement**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

**EPA Pesticide Label**

Extremely Hazardous Liquid And Vapor Under Pressure. Fatal If Inhaled. May Be Fatal If Swallowed. Liquid May Cause Freeze Burns of Exposed Skin. Do not get in eyes, on skin, or on clothing. Vikane specialty gas fumigant is odorless. Exposure to toxic levels may occur without warning or detection by the user.

**Difference between SDS and EPA pesticide label**

	EPA	OSHA
<b>Signal Word</b>	Danger	Danger
Acute toxicity - Oral	May be fatal if swallowed	Toxic if swallowed
Acute toxicity - Inhalation	Fatal if inhaled	Fatal if inhaled
Carcinogenicity	N/A	May cause cancer
Specific target organ toxicity (single exposure)	N/A	Causes damage to organs
Specific target organ toxicity (repeated exposure)	N/A	May cause damage to organs through prolonged or repeated exposure



**16. OTHER INFORMATION****NFPA****Health Hazards****Flammability****Instability****Special Hazards**

4

0

0

None

**HMIS****Health Hazards****Flammability****Physical hazards****Personal Protection**

Not determined

Not determined

Not determined

Not determined

**Issue Date:**

23-Feb-2019

**Revision Date:**

15-Jul-2019

**Revision Note:**

Editorial updates

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**

# Safety Data Sheet

Issue Date: 17-Jul-2019

Revision Date: 18-Jul-2019

Version 1

## 1. IDENTIFICATION

### Product identifier

**Product Name** Chloropicrin Warning Agent

### Other means of identification

**SDS #** DOUG-008  
**Document ID #** SDS.Chloropicrin Warning Agent.English.20190718.1  
**Synonyms** Nitrotrichloromethane, Trichloronitromethane, Nitrochloroform.  
**UN/ID No** UN1580

### Recommended use of the chemical and restrictions on use

**Recommended Use** Fumigation Warning Agent.

### Details of the supplier of the safety data sheet

#### **Supplier Address**

Douglas Products and Packaging Company, LLC  
 1550 East Old 210 Highway  
 Liberty, MO 64068  
 Customer Information Number: 800-223-3684

### Emergency telephone number

**Emergency Telephone** 1-844-845-3129 or 1-352-326-7641

## 2. HAZARDS IDENTIFICATION

**Appearance** slightly oily, clear to light green/brown liquid      **Physical state** Liquid      **Odor** Tear gas odor (odor is intensely irritating)

### Classification

Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3

### Signal Word

**Danger**

### Hazard statements

Toxic if swallowed  
 Fatal if inhaled  
 Causes skin irritation  
 Causes serious eye irritation  
 May cause respiratory irritation



**Precautionary Statements - Prevention**

Wear protective gloves/protective clothing/eye protection/face protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Wear respiratory protection

**Precautionary Statements - Response**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN: Wash with plenty of water and soap  
 Immediately call a POISON CENTER or doctor  
 Take off immediately all contaminated clothing and wash it before reuse  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 Immediately call a POISON CENTER or doctor  
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
 Rinse mouth

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other hazards**

Very toxic to aquatic life

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Synonyms** Nitrotrichloromethane, Trichloronitromethane, Nitrochloroform.

Chemical name	CAS No	Weight-%
Chloropicrin	76-06-2	>99.5

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

### 4. FIRST AID MEASURES

**Description of first aid measures**

<b>General Advice</b>	Provide this SDS to medical personnel for treatment. Any additional important symptoms and effects are described in Section 11: Toxicology Information.
<b>Eye Contact</b>	Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. Suitable emergency eye wash facility should be immediately available. Obtain medical attention promptly, preferably from an ophthalmologist.
<b>Skin Contact</b>	Liquid: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Get medical attention immediately. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Gas: Skin absorption is unlikely due to physical properties.

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<b>Inhalation</b>	Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc.). Call a poison control center or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.
<b>Ingestion</b>	Call a physician and/or transport to emergency facility immediately. Do not induce vomiting unless told to do so by the poison control or doctor. Never give anything by mouth to an unconscious person.
<b>Self-Protection of the First Aider</b>	First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

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

<b>Symptoms</b>	May cause lung, liver and kidney damage. May cause allergic respiratory and skin reaction and could be fatal if inhaled. Causes eye, skin and respiratory tract irritation.
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**Indication of any immediate medical attention and special treatment needed**

<b>Notes to Physician</b>	Chloropicrin can cause irritation of the mucous membrane and upper respiratory tract. Inhalation may cause anemia, weak and irregular heart, recurrent asthmatic attacks, bronchitis, pulmonary edema, and possible death. Gastrointestinal irritation with nausea, vomiting and diarrhea. Ingestion may cause colic and death. Treat appropriately. Ensure medical personal are aware of the materials involved.
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## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water. Dry chemical. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable Extinguishing Media** Not determined.

**Specific Hazards Arising from the Chemical**

Container may rupture from gas generation in a fire situation.

**Hazardous combustion products** Smoke, fumes or vapors, and oxides of carbon.

**Protective equipment and precautions for firefighters**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Move container from fire area if this is possible without hazard. Contain fire water run-off if possible. Fire water runoff, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this SDS.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during firefighting operations. If contact is likely, change to full chemical resistant firefighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions** Isolate area. Stay upwind and out of low areas. Ventilate area of leak or spill. Use personal protection recommended in Section 8.

### Environmental precautions

**Environmental precautions** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

### Methods and material for containment and cleaning up

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Clean-Up** **Small spills:** Absorb with materials such as: Clay, Dirt or Sand. Sweep up. Collect in suitable and properly labeled containers.  
**Large spills:** Contact Douglas Products for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice. Wear appropriate personal protective equipment. Wash face, hands and any exposed skin thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep container tightly closed and store in a cool, dry and well-ventilated place. Store locked up. Store containers upright. Protect from direct sunlight. Keep/store only in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

**Incompatible Materials** Amines, aniline, sodium methoxide, particularly at elevated temperatures. Do not use with PVC, aluminum, magnesium or their alloys. Mixing with water may cause formation of corrosive products over time. Contact with oxidizing and reducing agents, strong acids or bases may cause fires or explosions.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Chloropicrin 76-06-2	TWA: 0.1 ppm	TWA: 0.1 ppm TWA: 0.7 mg/m <sup>3</sup> (vacated) TWA: 0.1 ppm (vacated) TWA: 0.7 mg/m <sup>3</sup>	IDLH: 2 ppm TWA: 0.1 ppm TWA: 0.7 mg/m <sup>3</sup>

**Other Information** RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. **APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.**

### Appropriate engineering controls

**Engineering Controls** Apply technical measures to comply with the occupational exposure limits. Showers. Eyewash stations. Use explosion-proof ventilation equipment. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point.

**Individual protection measures, such as personal protective equipment**

<b>Eye/Face Protection</b>	Chemical safety goggles/face-shield. Refer to 29 CFR 1910.133 for eye and face protection regulations.
<b>Skin and Body Protection</b>	Wear clean, body-covering clothing. Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Consistent with general hygienic practice for any material, skin contact should be minimized. Refer to 29 CFR 1910.138 for appropriate skin and body protection.
<b>Respiratory Protection</b>	Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In dusty or misty atmospheres, use an approved particulate respirator. The following should be effective types of air purifying respirators: Organic vapor cartridge with a particulate pre-filter. Approved self-contained breathing apparatus with full face piece may be appropriate for certain operations. Refer to 29 CFR 1910.134 for respiratory protection requirements.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid		
<b>Appearance</b>	slightly oily, clear to light green/brown liquid	<b>Odor</b>	Tear gas odor (odor is intensely irritating)
<b>Color</b>	Clear to light green/brown	<b>Odor Threshold</b>	Not determined
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
pH	non-aqueous		
Melting point / freezing point	-64°C		
Boiling point / boiling range	112°C		
Flash point	Not determined		
Evaporation Rate	Not determined		
Flammability (Solid, Gas)	Not determined		
Flammability Limit in Air			
Upper flammability or explosive limits	Not determined		
Lower flammability or explosive limits	Not determined		
Vapor Pressure	23.9 mm Hg		
Vapor Density	5.7	(Air=1)	
Relative Density	1.657		
Water Solubility	1.6 g/L 25°C, Unbuffered		
Solubility in other solvents	Not determined		
Partition Coefficient	2.1		
Autoignition temperature	Not determined		
Decomposition temperature	Not determined		
Kinematic viscosity	Not determined		
Dynamic Viscosity	Not determined		
Explosive Properties	Not determined		
Oxidizing Properties	Not determined		

**Other information**

NOTE: The physical data presented above are typical values and should not be construed as a specification

## 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

None under normal processing.

**Hazardous Polymerization**      Hazardous polymerization does not occur.

### Conditions to Avoid

Incompatible Materials. Excessive heat.

### Incompatible materials

Amines, aniline, sodium methoxide, particularly at elevated temperatures. Do not use with PVC, aluminum, magnesium or their alloys. Mixing with water may cause formation of corrosive products over time. Contact with oxidizing and reducing agents, strong acids or bases may cause fires or explosions.

### Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: hydrogen chloride, phosgene, carbon monoxide, oxides of nitrogen, irritating and toxic fumes and gases, carbon dioxide.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Eye Contact</b>	Causes serious eye irritation. Corneal injury is unlikely. Powerful lachrymator, commonly referred to as tear gas.
<b>Skin Contact</b>	Skin absorption is unlikely due to physical properties. Prolonged skin contact is unlikely to result in absorption of harmful amounts. As a product the Dermal LD50 has not been determined.
<b>Inhalation</b>	Pungent, sore throat, coughing, labored breathing, dizziness, nausea, vomiting, bluish skin, faintness. Serious cases may be fatal. As a product the Inhalation LC50 has not been determined.
<b>Ingestion</b>	May cause severe burns of the mouth and throat. Ingestion may cause gastrointestinal irritation or ulceration. In animals, effects have been reported on the following organ: liver. As a product the Oral LD50 has not been determined.

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms**      Please see section 4 of this SDS for symptoms.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	Causes redness and chemical burns. Liquid chloropicrin has a corrosive action on the skin. Scratches or abrasions exposed to chloropicrin fumes invariably become septic.
<b>Germ cell mutagenicity</b>	Has been shown to have mutagenic activity in bacteria. Animal mutagenicity studies were inconclusive.
<b>Carcinogenicity</b>	Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
<b>STOT - single exposure</b>	May cause drowsiness or dizziness.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Very toxic to aquatic life. This material is toxic to mammals, birds, and aquatic invertebrates.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Chloropicrin 76-06-2		0.092 - 0.119: 96 h Lepomis macrochirus mg/L LC50 static 0.0142 - 0.019: 96 h Oncorhynchus mykiss mg/L LC50 static	

### Persistence/Degradability

The half-life of chloropicrin in sandy loam soil was 8-24 hours and 4.5 days with carbon dioxide being the terminal breakdown product.

### Bioaccumulation

The octanol/water partition coefficient (Log<sub>10</sub> K<sub>ow</sub>) is 2.50 at 25°C indicating that chloropicrin would not be expected to bioaccumulate in mammalian cells.

### Mobility

Chloropicrin moves rapidly in soils within twelve inches of injection but may diffuse to a maximum depth of four feet in sandy soil. Since it is only slightly soluble in water, it will not move rapidly in aquatic environments. In an anaerobic aquatic/soil system, chloropicrin was converted to nitromethane with a half-life of 1.3 hours. In the absence of sunlight or microorganisms, chloropicrin does not undergo hydrolysis.

### Other Adverse Effects

Not determined

## 13. DISPOSAL CONSIDERATIONS

### Waste Treatment Methods

#### **Disposal of Wastes**

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

#### **Contaminated Packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.



## 14. TRANSPORT INFORMATION

**Note** Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

### DOT

**UN/ID No** UN1580  
**Proper Shipping Name** Chloropicrin  
**Hazard class** 6.1  
**Packing Group** I  
**Special Provisions** Toxic-Inhalation Hazard Zone B  
**Marine Pollutant** Yes.

### IATA

Forbidden

### IMDG

**UN number** UN1580  
**Proper Shipping Name** Chloropicrin  
**Transport hazard class(es)** 6.1  
**Packing Group** I  
**Special Provisions** Toxic-Inhalation Hazard Zone B  
**Marine Pollutant** Yes

## 15. REGULATORY INFORMATION

### International Inventories

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Chloropicrin	X	ACTIVE	X	X	X	X	X	X	X

### Legend:

*TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*  
*DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List*  
*EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*  
*ENCS - Japan Existing and New Chemical Substances*  
*IECSC - China Inventory of Existing Chemical Substances*  
*KECL - Korean Existing and Evaluated Chemical Substances*  
*PICCS - Philippines Inventory of Chemicals and Chemical Substances*  
*AICS - Australian Inventory of Chemical Substances*

### US Federal Regulations

#### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

#### SARA 311/312 Hazard Categories

**Acute Health Hazard** Yes  
**Chronic Health Hazard** No  
**Fire Hazard** No  
**Sudden Release of Pressure Hazard** No  
**Reactive Hazard** No

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Chloropicrin - 76-06-2	76-06-2	>99.5	1.0

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Chloropicrin 76-06-2	X	X	X

## 16. OTHER INFORMATION

**NFPA****Health Hazards**

4

**Flammability**

0

**Instability**

3

**Special Hazards**

None

**HMIS****Health Hazards**

4

**Flammability**

0

**Physical hazards**

3

**Personal Protection**

See Section 8

**Issue Date:**

17-Jul-2019

**Revision Date:**

18-Jul-2019

**Revision Note:**

New format

**Disclaimer**

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**End of Safety Data Sheet**