

DOUGLAS PRODUCTS AND PACKAGING CO. LLC

Safety Data Sheet Douglas Max Kill Vapocide

SECTION 1: Identification

1.1 Product identifier

Product name Douglas Max Kill Vapocide

1.4 Supplier's details

Name Douglas Products and Packaging Co. LLC
Address 1550 East Old 210 Highway
Liberty, MO 64068
USA

Telephone 816-781-4250
Fax 816-781-1043
email douglasproducts@douglasproducts.com

1.5 Emergency phone number(s)

CHEMTREC 800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with OSHA (29 CFR 1910.1200)

- Flammable liquids (chapter 2.6), Cat. 4
- Acute toxicity, oral (chapter 3.1), Cat. 3
- Acute toxicity, dermal (chapter 3.1), Cat. 2
- Acute toxicity, inhalation (chapter 3.1), Cat. 1
- Eye damage/irritation (chapter 3.3), Cat. 2B
- Sensitization, skin (chapter 3.4), Cat. 1
- Carcinogenicity (chapter 3.6), Cat. 2
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1

2.2 GHS label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H227 Combustible liquid
H301 Toxic if swallowed
H310 Fatal in contact with skin
H330 Fatal if inhaled
H320 Causes eye irritation
H317 May cause an allergic skin reaction
H351 Suspected of causing cancer

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H400 Very toxic to aquatic life

Precautionary statement(s)

P210 Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P370+P378 In case of fire: Use ... to extinguish.

P403+P235 Store in a well ventilated place. Keep cool.

P501 Dispose of contents/container to ...

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/...

P321 Specific treatment (see ... on this label).

P330 Rinse mouth.

P405 Store locked up.

P262 Do not get in eyes, on skin, or on clothing.

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

P310 Immediately call a POISON CENTER/doctor/...

P361+P364 Take off immediately all contaminated clothing and wash it before reuse.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

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

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

P320 Specific treatment is urgent (see ... on this label).

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

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

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

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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

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

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

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P308+P313 IF EXPOSED or concerned: Get medical advice/attention.

P273 Avoid release to the environment.

P391 Collect spillage.

2.3 Other hazards which do not result in classification

Combustible liquid. Toxic if swallowed. Fatal in contact with skin. Causes eye irritation. May cause an allergic skin reaction.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. VAPONA

Concentration > 0 - < 95 % (Volume)

Other names / synonyms

2,2-DICHLOROETHENOL DIMETHYL PHOSPHATE;
2,2-DICHLOROETHENYL DIMETHYL PHOSPHATE;
2,2-DICHLOROETHENYL PHOSPHORIC ACID DIMETHYL ESTER;

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2,2-DICHLOROVINYL ALCOHOL DIMETHYL PHOSPHATE;
2,2-DICHLOROVINYL DIMETHYL PHOSPHATE; 2,2-DICHLOROVINYL
DIMETHYL PHOSPHORIC ACID ESTER; APAVAP; ASTROBOT; ATGARD;
ATGARD C; ATGARD V; BAY-19149; BAYER 19149; BENFOS; BIBESOL;
BREVINYL; BREVINYL E50; CANOGARD; CEKUSAN; CHLORVINPHOS;
CYPONA; DDVF; DDVP; DDVP (INSECTICIDE); DEDEVAP; DERIBAN;
DERRIBANTE; DEVIKOL; DICHLORMAN; DICHLOROPHOS;
DICHLOROVAS; DICHLOROVOS; DICHLOROVOS MIXTURE, DRY;
DICHLORPHOS; DICHLORVOS; dichlorvos (ISO); DIMETHYL
2,2-DICHLOROETHENYL PHOSPHATE; DIMETHYL 2,2-DICHLOROVINYL
PHOSPHATE; DIMETHYL DICHLOROVINYL PHOSPHATE; DIVIPAN;
DUO-KILL; DURAVOS; ENT 20738; EQUIGARD; EQUIGEL; ESTROSEL;
ESTROSOL; FECAMA; FEKAMA; FLY FIGHTER; FLY-DIE; HERKAL;
HERKOL; INSECTIGAS D; KRECALVIN; LINDAN; MAFU; MAFU STRIP;
MARVEX; MOPARI; NA 2783; NCI-C00113; NEFRAFOS; NERKOL;
NO-PEST; NO-PEST STRIP; NOGOS; NOGOS 50; NOGOS 50 EC;
NOGOS G; NOVOTOX; NSC-6738; NUVA; NUVAN; NUVAN 100EC;
NUVAN 7; O,O-DIMETHYL 2,2-DICHLOROVINYL PHOSPHATE;
O,O-DIMETHYL DICHLOROVINYL PHOSPHATE; O,O-DIMETHYL
O-2,2-DICHLOROVINYL PHOSPHATE; OKO; OMS 14; PANAPLATE;
PHOSPHORIC ACID, 2,2-DICHLOROETHENYL DIMETHYL ESTER;
PHOSVIT; SD-1750; SZKLARNIAK; TAP 9VP; TASK; TASK TABS; TENAC;
TETRAVOS; UDVF; UNIFOS; UNIFOS (PESTICIDE); UNIFOS 50 EC;
UNITOX; VAPONA; VAPONA INSECTICIDE; VAPONITE; VAPORA II;
VERDICAN; VERDIPOR; VINYL ALCOHOL; VINYLOFOS; VINYLOPHOS;
WINYLOPHOS

EC no. 200-547-7
CAS no. 62-73-7
Index no. 015-019-00-X

- Acute toxicity (chapter 3.1), Cat. 2
- Acute toxicity (chapter 3.1), Cat. 3
- Sensitization, skin (chapter 3.4), Cat. 1
- Hazardous to the aquatic environment - acute hazard (chapter 4.1), Cat. 1

H301 Toxic if swallowed
H311 Toxic in contact with skin
H317 May cause an allergic skin reaction
H330 Fatal if inhaled
H400 Very toxic to aquatic life

2. 64742-95-6

Concentration > 0 - < 5 % (Volume)

Other names / synonyms Solvent Naphtha- petroleum, light aromatic

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from flames and hot surfaces-No smoking. Do not breathe vapor. Do not get in eyes, on skin,

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or on clothing. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wash thoroughly after handling. Avoid release to the environment. This product is a Cholinesterase Inhibitor. A physician should be contacted in all cases of exposure to the technical and its formulations. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Take off contaminated clothing and shoes immediately. Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. In case of shortness of breath, give oxygen. Keep victim warm. Wash contaminated clothing before reuse. Discard any shoes or clothing items that cannot be decontaminated.

If inhaled	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.
In case of skin contact	Take off immediately all contaminated clothing. Immediately flush skin with plenty of water. Call a physician or poison control center immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.
In case of eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Continue rinsing. Call a physician or poison control center immediately.
If swallowed	Call a physician or poison control center immediately. Rinse mouth thoroughly. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

4.2 Most important symptoms/effects, acute and delayed

This product is a severe Cholinesterase Inhibitor. Preexisting skin or respiratory disorders may be aggravated by exposure to components of this product. Preexisting conditions which lower cholinesterase levels increase vulnerability to cholinesterase depression. These include: (for plasma) chronic alcoholism; malnutrition; dermatomyositis; existing toxicity from exposure to carbon disulfide; benzalkonium salts, organic mercury compounds, ciguatoxins or solanines; and (for RBC) hemolytic anemia. Acute cholinesterase depression may be evidenced by headache, nausea, vomiting, diarrhea, abdominal cramps, excessive sweating, salivation and tearing, constricted pupils, blurred vision, tightness in chest, weakness, muscle twitching and confusion; in extreme cases, unconsciousness, convulsions, severe respiratory depression and death may occur. Product may cause slight but temporary irritation to the eyes and may cause irritation of the skin. Repeated exposures to small doses of Terbufos and other organophosphates may lower the cholinesterase to levels where the above symptoms of acute overexposure are observed.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians: This product is an Organophosphate (OP) Insecticide. Do not handle the patient without the following protective equipment in place: chemical resistant gloves and apron (preferably nitrile). Remove

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contaminated clothing and do not reuse without thorough cleaning with detergent and hot water. Dispose of heavily contaminated clothing, including shoes, as a hazardous waste. Do not wait for laboratory confirmation to treat patients with strong clinical evidence of poisoning. In the USA and other countries, contact your local or national poison control center for more information. Establish airway and oxygenation. IV Atropine sulfate is the antidote of choice against parasympathetic nervous stimulation. If there are signs of parasympathetic stimulation, Atropine Sulfate should be injected at 10 minutes intervals in doses of 1 to 2 milligrams until complete atropinization has occurred. Pralidoxime chloride (2-PAM chloride) may also be used as an effective antidote in addition to and while maintaining full atropinization. In adults, an initial dose of 1 gram of 2-PAM should be injected, preferably as an infusion, in 250 cc of saline over a 15 to 20 minute period. If this is not practical, 2-PAM may be administered slowly by intravenous injection as a 5% solution in water over not less than 2 minutes. After about an hour, a second dose of 1 gram of 2-PAM will be indicated if muscle weakness has not been relieved. For infants and children, the dose of 2-PAM is 0.25 grams. Avoid morphine, aminophylline, phenothiazine, reserpine, furosemide and ethacrynic acid. Clear chest by postural drainage. Oxygen administration may be necessary. Observe patient continuously for 48 hours. Repeated exposure to cholinesterase inhibitors may without warning cause prolonged susceptibility very small doses of any cholinesterase inhibitor. Allow no further exposure until time for cholinesterase regeneration has been attained as determined by a blood test. Bathe and shampoo contaminated skin and hair. If ingested, empty stomach; activated charcoal is useful to further to further limit absorption. If victim is alert, Syrup of Ipecac (2 tablespoons in adults, 1 tablespoon in small children) is indicated. If symptoms such as loss of gag reflex, convulsions, or unconsciousness occur before emesis, gastric lavage should be considered following intubation with a cuffed indotracheal tube.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂). Do not use water jet as an extinguisher, as this will spread the fire.

5.2 Specific hazards arising from the chemical

Combustible. During fire, very toxic gases hazardous to health, may be formed. Do not breathe gases, fumes, or vapor. Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. In the event of fire and/or explosion do not breathe fumes.

5.3 Special protective actions for fire-fighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. Evacuate area and fight fire from a safe distance. In case of fire and/or explosion do not breathe fumes. Keep upwind. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Move containers from fire area if you can do so without risk. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. ALWAYS stay away from tanks engulfed in flame. Water runoff can cause environmental damage.

Further information

In case of fire: Use appropriate media to extinguish. If swallowed: Immediately call a poison center/doctor. Rinse mouth. If on skin: Wash with plenty of water. Immediately call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. 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/doctor. 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. Specific treatment is urgent (see product label). Collect spillage.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

6.2 Environmental precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

6.3 Methods and materials for containment and cleaning up

Small Spills: Cover with absorbent (clay, sawdust, straw, kitty litter, etc.), to absorb the liquid. Sweep or shovel into an open drum. Clean surface thoroughly with caustic/bleach, followed by water to remove residual contamination. Absorb and sweep into the same open drum. Rinse with water, absorb, and add to the waste drum. Close the drum and dispose of properly, according to hazardous waste disposal procedures for your locality. For waste disposal, see section 13 of the SDS. Large Spills: Stop the flow of material, if this is without risk, to prevent entry into waterways, sewer, basements or confined areas. Dike the spilled material, where this is possible to prevent contamination of local water sources. Siphon the majority of the liquid into drums for use or disposal, depending on the circumstances.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not breathe vapor. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not taste or swallow. Do not get this material on clothing. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment recommended in section 8. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash thoroughly after handling. Wash contaminated clothing before reuse. Keep away from food, drink and animal feedstuffs. Handle and open container with care. Avoid release to the environment. Do not empty into drains.

7.2 Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat and sources of ignition. Keep away from food, drink and animal feedstuffs. Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Dichlorvos (DDVP) (CAS: 62-73-7)

PEL (Inhalation): 1 mg/m³ (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

2. Dichlorvos (DDVP) (CAS: 62-73-7)

PEL (Inhalation): 1 mg/m³ (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

3. Dichlorvos (DDVP) (CAS: 62-73-7)

REL (Inhalation): 1 mg/m³ (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

8.3 Individual protection measures, such as personal protective equipment (PPE)

Body protection

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Do not get in eyes. Wear eye/face protection. Face-shield. Wear a full-face respirator, if needed. Wear chemical resistant gloves (preferably nitrile). When using, do not eat, drink or smoke. Do not get this material on clothing. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Respiratory protection

Do not breathe fume/gas/mist/vapors/spray. When respiratory protection is required, or concentrations may exceed the PEL, use an approved air-purifying respirator equipped with organic vapor cartridges or canisters. It is recommended that the canisters be changed whenever breakthrough occurs or eight (8) hours of use has occurred, whichever comes first. For emergency and other conditions where the exposure limit may be greatly exceeded, use an approved positive-pressure, self-contained breathing apparatus or positive-airline with auxiliary self-contained air supply.

Thermal hazards

Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Wear appropriate thermal protective clothing, when necessary.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form	Colorless to Amber
Odor	Mild chemical odor
Odor threshold	
pH	
Melting point/freezing point	
Initial boiling point and boiling range	176 F to 340 F
Flash point	
Evaporation rate	
Flammability (solid, gas)	
Upper/lower flammability limits	
Upper/lower explosive limits	
Vapor pressure	
Vapor density	5.1mm Hg
Relative density	
Solubility(ies)	Insoluble in water
Partition coefficient: n-octanol/water	
Auto-ignition temperature	
Decomposition temperature	
Viscosity	
Explosive properties	
Oxidizing properties	

SECTION 10: Stability and reactivity

10.1 Reactivity

Considered stable under normal ambient temperatures. Avoid high temperatures.

10.2 Chemical stability

At elevated temperatures one can get aldehydes, hydrogen sulfide, methyl mercaptan, dimethyl sulfide and oxides of carbon., sulfur and phosphorus.

10.4 Conditions to avoid

Heat, flames and sparks. Avoid temperatures exceeding the flash point. Contact with incompatible

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materials.

10.5 Incompatible materials

May react with strong or strong oxidizers.

10.6 Hazardous decomposition products

The product is toxic to fish and other aquatic organisms; this material should be kept out sewers, drainage systems and all bodies of water.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

This product contains a severe Cholinesterase Inhibitor. Preexisting skin or respiratory disorders may be aggravated by exposure to components of this product. Preexisting conditions which lower cholinesterase levels increase vulnerability to cholinesterase depression. These include: (for plasma) chronic alcoholism; malnutrition; dermatomyositis; existing toxicity from exposure to carbon disulfide; benzalkonium salts, organic mercury compounds, ciguatoxins or solanines; and (for RBC) hemolytic anemia. Acute cholinesterase depression may be evidenced by headache, nausea, vomiting, diarrhea, abdominal cramps, excessive sweating, salivation and tearing, constricted pupils, blurred vision, tightness in chest, weakness, muscle twitching and confusion; in extreme cases, unconsciousness, convulsions, severe respiratory depression and death may occur. Product may cause slight but temporary irritation to the eyes and may cause irritation of the skin. Repeated exposures to small doses of Tribufos and other organophosphates may lower the cholinesterase to levels where the above symptoms of acute overexposure are observed.

Skin corrosion/irritation

Fatal in contact with skin. May cause an allergic skin reaction.

Serious eye damage/irritation

Causes eye irritation.

Respiratory or skin sensitization

Fatal if inhaled.

Germ cell mutagenicity

No clear evidence of in vivo mutagenicity in mammalian assay. No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

Suspected of causing cancer. Risk of cancer cannot be excluded with prolonged exposure. DDVP: Two laboratory studies have shown a low incidence of freshman tumors in the mouse and mononuclear cell leukemia in the F344 rat. EPA under its 1999 proposed guidance for carcinogen risk assessment has classified DDVP as having "suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential". IARC: lists DDVP as being possibly carcinogenic to human (Group 2B). Care should be exercised in handling DDVP and its formulations.

Reproductive toxicity

Not classified. No evidence of teratogenicity in laboratory animals. Reproductive effects has only been seen at a dose level which produced a generalized toxicity in the rat.

Summary of evaluation of the CMR properties

Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. May cause damage to organs through prolonged or repeated exposure.

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STOT-single exposure

Due to lack of data the classification is not possible.

STOT-repeated exposure

Due to lack of data the classification is not possible.

Aspiration hazard

Due to lack of data the classification is not possible.

SECTION 12: Ecological information

Toxicity

Very toxic to aquatic life. Accumulation in aquatic organisms is expected. This product is toxic to fish, birds, and other wildlife. Keep out of any body of water. Do not contaminate water when disposing of equipment washwaters or wastes.

Persistence and degradability

No data is available on the degradability of this product.

Bioaccumulative potential

No data available for this product.

Mobility in soil

Not available.

SECTION 13: Disposal considerations

Disposal of the product

This material and its container must be disposed of as hazardous waste. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with all applicable local/regional/national/international regulations.

Disposal of contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal according to all applicable regulations. Do not re-use empty containers. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Waste treatment

Dispose of in accordance with all applicable regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Sewage disposal

Do not allow this material to drain into sewers/water supplies.

SECTION 14: Transport information

DOT (US)

UN Number: 3017

Class: 92.5

Packing Group: I

Proper Shipping Name: Organophosphorus Pesticides, Liquid, Toxic, Flammable, 6.1 (3), UN3017, PGI, Item #45615, Sub 5, Class 92.5 (Vapocide 1x5G)

Reportable quantity (RQ):

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Marine pollutant: Yes
Poison inhalation hazard: Yes

IMDG

UN Number: 3017
Class: 9.25
Packing Group: I
EMS Number: F-A, S-A
Proper Shipping Name:

IATA

UN Number: 3017
Class: 92.5
Packing Group: I
Proper Shipping Name:

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

SARA 313 Components

SARA 311/312 Hazards

SECTION 16: Other information