

MATERIAL SAFETY DATA SHEET

Tenkoz, Inc.

Emergency Phone: 800-424-9300
Tenkoz, Inc.
Alpharetta, GA 30005

VOLLEY* CORN HERBICIDE

Effective Date: 04/19/2013

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Volley* Corn Herbicide

EPA Reg. No. 55467-8

COMPANY IDENTIFICATION:

Tenkoz, Inc.
1725 Windward Concourse, Ste 410
Alpharetta, GA 30005

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Light to dark amber liquid with an organic odor. May cause eye and skin irritation. Toxic to aquatic organisms and avian species.

EMERGENCY PHONE NUMBER: 800-424-9300

3. COMPOSITION/INFORMATION ON INGREDIENTS:

COMPONENT	CAS NUMBER	W/W%
Acetochlor	034256-82-1	70.9
Dichlormid	037764-25-3	12.4
Naphthalene	000091-20-3	0.8
Balance		15.9

4. FIRST AID:

EYES: Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

SKIN: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items, which cannot be decontaminated, including leather articles such as shoes, belts, and watchbands.

INGESTION: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, and 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.

NOTE TO PHYSICIAN: If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. The decision of whether to induce vomiting or not should be made by a physician. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES:

FLASH POINT: >200°F (>93°C)

METHOD USED: TCC

EXTINGUISHING MEDIA: Water fog, alcohol foam, carbon dioxide, dry chemical or halogenated agents.

FIRE AND EXPLOSION HAZARDS: If heated above the flash point, heavy vapors can flow along surfaces to distant ignition sources and flash back.

FIRE-FIGHTING EQUIPMENT: A self-contained breathing apparatus with full-face piece and full protective clothing must be worn in fire conditions.

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS/LEAKS: Wear suitable protective clothing and eye protection to prevent skin and eye contact. Absorb small spills with materials such as sand, sawdust, Zorbball, or dirt and shovel into an open drum. Wash exposed body areas thoroughly after handling. Report large spills to Dow AgroSciences at 800-992-5994.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Avoid contact with eyes and skin. Keep away from food, drink and animal feeding stuffs. Exercise due caution to prevent damage to or leakage of the container. Store product in a cool, dry, well ventilated area, away from flammable materials and sources of heat or flame, in the original container with the lid tightly closed.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES:

Acetochlor: Dow AgroSciences Industrial Hygiene Guide is 0.1 mg/M³.

Naphthalene: ACGIH TLV is 10 ppm TWA, 15 ppm STEL, Skin, A4. OSHA PEL is 10 ppm TWA.

A 'skin' notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use safety glasses. If exposure causes eye discomfort, use a NIOSH approved full-face respirator.

SKIN PROTECTION: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required, use a NIOSH approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For emergency and other conditions where the exposure guideline may be exceeded, use a NIOSH approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES:

BOILING POINT: NA

SPECIFIC GRAVITY: 1.11

DENSITY @ 68°F (20°C): 9.25 lb/gal

SOLUBILITY IN WATER: Dispersible

APPEARANCE: Light to dark amber liquid

ODOR: Organic

pH: 7.6 (1% dilution in DI water)

10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Stable under normal storage conditions.

INCOMPATIBILITY: Oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: If product is involved in a fire, carbon dioxide, carbon monoxide, hydrogen chloride, nitrogen dioxide, and sulfur dioxide may be formed.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

POTENTIAL HEALTH EFFECTS: This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

EYES: May cause eye irritation. Vapor may cause eye irritation experienced as mild discomfort and redness.

SKIN: Prolonged contact may cause moderate skin irritation with local redness. Prolonged skin contact is unlikely to result in absorption of harmful amounts. The LD₅₀ has not been determined. Acetochlor and dichlormid have caused allergic skin sensitization in guinea pigs.

INGESTION: Low toxicity if swallowed. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. The oral LD₅₀ has not been determined. Swallowing may result in gastrointestinal irritation. Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia. Ingestion of large amounts may result in central nervous system depression.

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INHALATION: Brief exposure (minutes) to easily attainable concentrations may cause adverse effects. The aerosol LC₅₀ has not been determined.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:

Acetochlor has been reported to cause effects on the following organs in animals: blood, central nervous system, kidney, liver, testes, respiratory tract, and eyes. Dichlormid has been reported to cause effects on the following organs in animals: central nervous system, liver and muscles.

CANCER INFORMATION: Acetochlor has caused cancer in laboratory animals. Contains naphthalene, which has caused cancer in some laboratory animals. An increase in lung tumors was observed in female, but not male, mice exposed to naphthalene by inhalation for two years. In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.

TERATOLOGY (BIRTH DEFECTS): Acetochlor and dichlormid did not cause birth defects in animals; other fetal effects occurred only at doses toxic to the mother.

REPRODUCTIVE EFFECTS: In laboratory animal studies on acetochlor, effects on reproduction were seen only at doses that produced significant toxicity to the parent animals. Dichlormid did not interfere with reproduction in animal studies.

MUTAGENICITY: For acetochlor, in-vitro mutagenicity studies were negative in some cases and positive in other cases. Animal mutagenicity studies were predominantly negative. For dichlormid, in-vitro mutagenicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING:

Based largely or completely on information for acetochlor.
Bioconcentration potential is moderate (BCF is between 100 and 3000 or Log Pow between 3 and 5).
Potential for mobility in soil is medium (Koc is between 150 and 500).

Based largely or completely on information for dichlormid.
Bioconcentration potential is low (BCF is <100 or Low Pow <3).
Potential for mobility in soil is medium (Koc between 150 and 500).

DEGRADATION & PERSISTENCE:

Based largely or completely on information for dichlormid.
Degradation is expected in the atmospheric environment within minutes to hours.

ECOTOXICOLOGY:

Based largely or completely on information for acetochlor.
Material is highly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is between 0.1 and 1 mg/L in the most sensitive species tested).
Material is slightly toxic to birds on an acute basis (LD₅₀ is between 501 and 2000 mg/kg).
Material is practically non-toxic to birds on a dietary basis (LC₅₀ is >5000 ppm).
Based largely or completely on information for dichlormid.
Material is practically non-toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is >100 mg/L in the most sensitive species tested).

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: 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 and regulations.

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14. TRANSPORT INFORMATION:

DOT Non-Bulk
NOT REGULATED

DOT Bulk
Proper Shipping Name: ENVIRONMENTALLY
HAZARDOUS SUBSTANCES, LIQUID, N.O.S.
Technical Name: ACETOCHLOR, NAPHTHALENE
Hazard Class: 9 **ID Number:** UN3082
Packing Group: PG III

IMDG
Proper Shipping Name: ENVIRONMENTALLY
HAZARDOUS SUBSTANCES, LIQUID, N.O.S.
Technical Name: ACETOCHLOR, NAPHTHALENE
Hazard Class: 9 **ID Number:** UN3082
Packing Group: PG III
EMS Number: f-a,s-f
Marine Pollutant: Yes

ICAO/IATA
Proper Shipping Name: ENVIRONMENTALLY
HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Name: ACETOCHLOR, NAPHTHALENE
Hazard Class: 9 **ID Number:** UN 3082
Packing Group: PG III
Cargo Packing Instruction: 914
Passenger Packing Instruction: 914

Additional Information

Reportable quantity: 13,158 lb – NAPHTHALENE

MARINE POLLUTANT

15. REGULATORY INFORMATION:

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
Naphthalene	000091-20-3	0.8%

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Section 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains a chemical(s) known to the State of California to cause cancer. The chemicals are acetochlor and naphthalene.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
Naphthalene	000091-20-3	PA1 PA3

PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).
PA3=Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%).

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**COMPREHENSIVE ENVIRONMENTAL RESPONSE
COMPENSATION AND LIABILITY ACT (CERCLA, or
SUPERFUND):** This product contains the following
substance(s) listed as "Hazardous Substances" under
CERCLA, which may require reporting of releases:

Chemical Name	CAS#	RQ	% in Product
Naphthalene	000091-20-3	100 lb.	0.8%

The Information Herein Is Given In Good Faith, But No
Warranty, Express or Implied, Is Made. Consult Tenkoz, Inc.
for Further Information.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

RATINGS:

Health	2
Flammability	1
Reactivity	0

16. OTHER INFORMATION:

MSDS STATUS: Revised Sections: 1, 14, 15
Reference: TIME*20737
Replaces Document Dated: 06-Sept-06
07-May-09
21-May-10