

2787 W. Bullard, Suite 101
P. O. Box 1168
Fresno, CA 93715-1168
(559) 436-2800
Fax: (559) 436-2953



*The Best People. The Best Products.
The Best Service.*

MATERIAL SAFETY DATA SHEET NO. 472

1. IDENTIFICATION

Product name: **FIRST CHOICE COTTON DEFOLIANT CONCENTRATE**
Chemical name of active ingredient(s): Sodium chlorate: NaClO₃
Chemical Class: Herbicide - defoliant
Registrant/Manufacturer: Western Farm Service, Inc.
P.O. Box 1168
Fresno, CA 93715
(559) 436-2800
Telephone: CHEMTREC: 1-800-424-9300
For fire, spill, and/or leak emergencies, contact:
For medical emergencies and health and safety inquiries, contact: National Poison Control Center: 1-800-222-1222

2. COMPOSITION/INFORMATION ON INGREDIENTS

Information on hazardous ingredients *

MATERIAL	CAS Number	Percent	OSHA/PEL	ACGIH/TLV	NTP/IARC/OSHA
Sodium chlorate	7775-09-9	18.0	Not available	Not available	Oxidizer
Inert Ingredients	N/A	82.0			Non hazardous

Contains urea as a fire retardant

3. HAZARDS IDENTIFICATION

SYMPTOMS OF ACUTE EXPOSURE: Sodium chlorate is a mucous membrane irritant. It primarily causes eye, skin, respiratory and digestive tract irritation. Ingestion affects the functioning of the blood along with head and stomach aches, vomiting and confusion.

HAZARDOUS DECOMPOSITION PRODUCTS: Sodium oxide, chlorine and chlorine dioxide

PHYSICAL PROPERTIES:

Appearance: Clear odorless liquid
Odor: None

UNUSUAL FIRE, EXPLOSION, AND REACTIVITY HAZARDS: Temperatures in excess of 570 degrees F will decompose the product and liberate oxygen. This characteristic makes "smothering type" fire extinguishing agents ineffective. Thermal decomposition products are listed above as sodium oxide, chlorine and chlorine dioxide.

4. FIRST AID

IF SWALLOWED: Call 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 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.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

NOTES TO PHYSICIAN: Ingestion of this material may result in mucosal damage. Use of gastric lavage may be contraindicated.

MEDICAL CONDITION LIKELY TO BE AGGRAVATED BY EXPOSURE: None known.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION:

FLASH POINT (Test method): Non-flammable

FLAMMABLE LIMITS (% in air): Non-flammable

AUTOIGNITION TEMPERATURE: Non-flammable

FLAMMABILITY: Non-flammable

UNUSUAL FIRE, EXPLOSION, AND REACTIVITY HAZARDS: Chlorate is not combustible, however other components may be. Urea is added as a fire retardant.

IN CASE OF FIRE: Use water as the extinguishing media. Smothering type extinguishers are not recommended. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes, or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Do not move containers if exposure to heat has occurred. Cool all affected containers from the side until well after fire is out with flooding quantities of water.

6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR LEAK: Wear chemical safety glasses with side shields or chemical goggles, rubber gloves, rubber boots, long-sleeve shirt, long pants, head covering, and a NIOSH-approved chemical cartridge respirator with organic vapor precarbtridges or a self-contained breathing apparatus (SCBA). For small spills cover with an absorbent material such as pet litter. Sweep up and place in an approved chemical container. Wash the spill area with water containing a strong detergent, absorb with pet litter or other absorbent material, sweep up, and place in a chemical container. Seal the container and handle in an approved manner. Flush the area with water to remove any residue. Do not allow wash water to contaminate water supplies.

7. HANDLING AND STORAGE

HANDLING: Prevent eating, drinking, tobacco usage, and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

STORAGE: Keep in the original container. Do not reuse container. Store the material in a cool, dry, well-ventilated and secure area out of the reach of children and domestic animals. Protect from excessive heat. Do not store food, beverages, or tobacco products in the storage area. Do not store next to strong acids or emulsifiable concentrates of parathion or malathion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation, and packaging of the product. For commercial applications and on-farm applications, consult the product label.

INGESTION: Prevent eating, drinking, tobacco usage, and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

EYE CONTACT: Avoid eye contact. Wear safety glasses with side shields or chemical goggles.

SKIN CONTACT: Avoid skin contact. Wear rubber gloves, rubber boots, long-sleeve shirt, long pants, and a head covering.

RESPIRATORY PROTECTION: Avoid breathing vapor or mist. Wear a NIOSH-approved chemical cartridge pesticide respirator with organic vapor precarbtridges or a supplied-air respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear odorless liquid
ODOR:	None
MELTING POINT:	478-502° F
SPECIFIC GRAVITY/DENSITY:	2.49 @ 59° F
pH:	Not available
SOLUBILITY IN WATER:	49.5 g/100 g water @ 20° C
VAPOR PRESSURE:	0 @ 20°C.

10. STABILITY AND REACTIVITY

STABILITY:	Stable under standard conditions.
CONDITIONS TO AVOID:	None currently known.
HAZARDOUS POLYMERIZATION:	Will not occur.
CONDITIONS TO AVOID:	None currently known.
HAZARDOUS DECOMPOSITION PRODUCTS:	Free oxygen and chlorine dioxide under fire conditions.
INCOMPATIBILITY MATERIALS:	Strong acids, organic substances, sulphur, powder metals, and ammonia compounds.

11. TOXICOLOGICAL INFORMATION

ORAL ACUTE TOXICITY:	LD ₅₀ (rat) 4,950 mg/kg (male); 6,250 mg/kg (female).
DERMAL ACUTE TOXICITY:	LD ₅₀ (rabbit) 500 mg/kg @ 24 hrs.
INHALATION ACUTE TOXICITY:	No hazard expected.
EYE CONTACT:	May cause mild eye irritation
SKIN CONTACT:	May cause mild skin irritation
SENSITIZATION:	Not a sensitizer
MUTAGENICITY:	No information available.
REPRODUCTION TOXICITY:	No information available.
CHRON./SUBCHRON. TOX. STUDIES:	No information available.
CARCINOGENICITY:	No carcinogenic effects noted for sodium chlorate.
OTHER TOXICITY INFORMATION:	Not available.

TOXICITY OF OTHER COMPONENTS:

Urea: Urea primarily causes eye, skin, respiratory and digestive tract irritation. Ingestion may cause stomach upset, confusion, headache, and kidney damage.

TARGET ORGANS:

Active Ingredient: Sodium chlorate effects blood, eyes, skin, gastrointestinal, respiratory system, mucous membranes, kidneys, liver, cardiovascular system, reproductive system.

Inert Ingredients: Urea effects eyes, liver, skin, lungs, respiratory system, mucous membranes, central nervous system, reproductive system.

12. ECOLOGICAL INFORMATION

SUMMARY OF EFFECTS: Sodium chlorate is considered non-toxic to fish. It is considered non-toxic to bees. It is practically nontoxic to birds from acute toxicity, however long-term toxicity effects resulted in reduced egg production and fertility.

Eco-Acute Toxicity:

Sodium Rainbow Trout 96-hour LC50 mg/L – non toxic to fish (> 10,000 ml/l)
Chlorate: Bluegill Sunfish 96-hour LC50 mg/L – not toxic to fish (> 10,000 ml/l)
Bobwhite Oral LD50 >mg/kg – not available; long-term resulted in reduced egg production and fertility in bird species.
Mallard Oral LD50 mg/kg – not available; long-term resulted in reduced egg production and fertility in bird species.

ENVIRONMENTAL FATE: Sodium chlorate may persist in soil for 6 months to 5 years, depending on the rate applied, soil type, fertility, organic matter, moisture, and weather conditions. Toxicity in soil is decreased considerably by a high nitrate content, alkaline conditions, and high soil temperature. Decomposition of the compound occurs more readily in moist soils about 70 degrees F. In water, no breakdown information is available. In plants, sodium chlorate is absorbed through both roots and leaves. The herbicide is carried downward through the xylem since it kills the phloem tissue. It also increases the rate of respiration, decreasing catalase activity, and depleting the plant's food reserves.

13. DISPOSAL CONSIDERATIONS:

PESTICIDE DISPOSAL: Do not reuse product containers. Do not contaminate food, feed, or water by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. In case of minor spills, follow all precautions indicated above and clean up immediately. Sweep up and dispose of wastes and broken or empty containers in a landfill approved for pesticide use.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CHARACTERISTIC WASTE: Not applicable.
LISTED WASTE: Not applicable.

14. TRANSPORT INFORMATION:

DOT CLASSIFICATION: Not regulated by DOT
B/L FREIGHT CLASSIFICATION: Desiccants/defoliants, plant, liquid, NOIBN
(NMFC Item 50320, Class 60)
INTERNATIONAL TRANSPORTATION: Not applicable

15. REGULATORY INFORMATION:

SARA TITLE III CLASSIFICATION:
SECTION 311/312: Acute Health

SECTION 313 (chemicals): Not listed

Proposition 65: Not applicable
CERCLA Reportable Quantity (RQ): 100 lbs. (as waste)
RCRA CLASSIFICATION: D001 (oxidizer, as waste)
TSCA STATUS: Exempt, subject to FIFRA.

16. OTHER INFORMATION:

NFPA HAZARD RATINGS

HEALTH: 2	0 LEAST
FLAMMABILITY: 0	1 SLIGHT
REACTIVITY: 0	2 MODERATE
	3 HIGH
	4 SEVERE

MSDS ISSUED: 11/29/04

The information contained herein is given in good faith and is believed to be correct, but no warrant, express or implied, is made. Consult for further information.

Western Farm Service, Inc. makes no warranty or merchantability, fitness for any purpose or otherwise, express or implied, concerning this product or its uses which extend beyond the use of the product under normal conditions in accord with the statements made on the label.