



### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Trooper 22K  
**EPA Reg. No.:** 228-535  
**Product Type:** Herbicide  
**Company Name:** Nufarm Americas Inc  
 11901 S. Austin Avenue  
 Alsip, IL 60803  
 1-800-345-3330

**Telephone Numbers:** For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,  
 Call CHEMTREC Day or Night: 1-800-424-9300  
 For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as the FIFRA label. Certain sections of this SDS are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

### 2. HAZARDS IDENTIFICATION

**PHYSICAL HAZARDS:**

Not Hazardous

**HEALTH HAZARDS:**

Not Hazardous

**ENVIRONMENTAL HAZARDS:**

Hazardous to aquatic environment, acute Category 2  
 Hazardous to aquatic environment, chronic Category 2

**SIGNAL WORD:**

No signal word

**HAZARD STATEMENTS:**

Toxic to aquatic life with long lasting effects.



**PRECAUTIONARY STATEMENTS**

Avoid release to the environment. Collect spillage. Dispose of contents in accordance with local, state, and federal regulations.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	% BY WEIGHT
Potassium Salt of Picloram Acid	62545-60-0	23.7 – 25.1
Other Ingredients	Trade Secret	Trade Secret

**Synonyms:** Mixture of K+ Salt of Picloram

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

**4. FIRST AID MEASURES**

**If in Eyes:** Hold eye open and rinse slowly and gently with water for several minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation persists.

**If Swallowed:** 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 symptoms develop, get medical advice.

**If Inhaled:** Move person to fresh air. If symptoms develop, get medical advice.

**If on Skin or Clothing:** Take off contaminated clothing. Wash skin with soap and water. If irritation occurs, get medical advice.

**Most important symptoms/effects, acute and delayed:** Causes slight eye irritation. Causes mild skin irritation.

**Indication of immediate medical attention and special treatment needed, if necessary:** Immediate medical attention is not generally required. For ingestion there is no specific antidote available. Treat symptomatically.

**5. FIRE FIGHTING MEASURES**

**Extinguishing Media:** Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

**Special Fire Fighting Procedures:** Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

**Unusual Fire and Explosion Hazards:** If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

**Hazardous Decomposition Materials (Under Fire Conditions):** May produce gases such as hydrogen chloride and oxides of carbon and nitrogen.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

**Environmental Precautions:** Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

**Methods for Containment:** Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

**Methods for Cleanup and Disposal:** Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

**Other Information:** Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

**7. HANDLING AND STORAGE****HANDLING:**

Avoid contact with eyes, skin and clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**STORAGE:**

If this product is exposed to subfreezing temperatures, the active ingredient may crystallize and settle out of solution. Under these conditions the product should be warmed to at least 40° F and agitated well to dissolve any crystallized material prior to use. Do not contaminate water, food, feed or fertilizer by storage or disposal.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Engineering Controls:**

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

**Personal Protective Equipment:**

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**Eye/Face Protection:** To avoid contact with eyes, wear safety glasses or goggles. **Skin Protection:** To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves. Washing facilities should be readily accessible to the work area.

**Respiratory Protection:** Not normally required. If mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

**General Hygiene Considerations:** Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

## Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
TIPA Salt of Picloram*	15(T) 5 (R)	NE	10	NE	
Other Ingredients	NE	NE	NE	NE	

\*Based on adopted limit for Picloram acid

NE = Not Established

T= Total Dust

R= Respirable Fraction

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Light straw color liquid
<b>Odor:</b>	Faint
<b>Odor threshold:</b>	No data available
<b>pH:</b>	6.24 (1% w/w dilution in DIW)
<b>Melting point/freezing point:</b>	Not determined
<b>Initial boiling point and boiling range</b>	Not determined
<b>Flash point:</b>	>212 °F (>100° C)
<b>Evaporation rate:</b>	Not determined
<b>Flammability (solid, gas):</b>	Not applicable due to aqueous formulation
<b>Upper/lower flammability or explosive limits:</b>	Not applicable
<b>Vapor pressure:</b>	Not applicable- salt dissociates to 2,4-D Acid in water
<b>Vapor density:</b>	Not determined
<b>Relative density:</b>	1.163 g/mL @ 20° C
<b>Solubility(ies):</b>	(Soluble) 46.1 g/100mL 20 ° C
<b>Partition coefficient: n-octanol/water:</b>	Not applicable- salt dissociates to 2,4-D Acid in water
<b>Autoignition temperature:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Viscosity:</b>	2.175 cSt @ 20° C; 1.298 cSt @ 40° C

**Note:** Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

## 10. STABILITY AND REACTIVITY

**Reactivity:** This product is not normally reactive.

**Chemical Stability:** This material is stable under normal handling and storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

**Conditions to Avoid:** Excessive heat. Do not store near heat or flame.

**Incompatible Materials:** Strong oxidizing agents: bases and acids.

**Hazardous Decomposition Products:** Under fire conditions may produce gases such as hydrogen chloride and oxides of carbon and nitrogen.

## 11. TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Inhalation, eye and skin contact.

**Eye Contact:** Causes minimal eye irritation. Vapors and mist can cause irritation.

**Skin Contact:** Slightly toxic and mildly irritating to the skin based on toxicity studies.

**Ingestion:** Slightly toxic if ingested based on toxicity studies.

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**Inhalation:** Low inhalation toxicity.

**Delayed, immediate and chronic effects of exposure:** May affect the liver.

**Toxicological Data:**

Data from laboratory studies on this product are summarized below:

**Oral:** Rat LD<sub>50</sub>: >5,000 mg/kg (female)

**Dermal:** Rat LD<sub>50</sub>: >5,000 mg/kg

**Inhalation:** Rat 4-hr LC<sub>50</sub>: >2.05 mg/L (no mortalities at highest dose tested)

**Eye Irritation:** Rabbit: Minimally irritating

**Skin Irritation:** Rabbit: Moderately irritating (PDII=2.1)

**Skin Sensitization:** Not a contact sensitizer in guinea pigs following repeated skin exposure.

**Subchronic (Target Organ) Effects:** Repeated overexposure to picloram may affect the liver.

**Carcinogenicity / Chronic Health Effects:** Picloram acid did not cause cancer in laboratory animals.

**Reproductive Toxicity:** Picloram acid did not interfere with reproduction in animal studies.

**Developmental Toxicity:** Picloram acid did not cause birth defects or any other fetal effects in laboratory animals, even at exposure levels having an adverse effect on the mother.

**Genotoxicity:** The preponderance of data shows picloram to be non-mutagenic in *in-vitro* tests and in animal studies.

**Assessment Carcinogenicity:**

This product contains substances that are considered to be probable or suspected human carcinogens as follows:

Component	Regulatory Agency Listing As Carcinogen			
	ACGIH	IARC	NTP	OSHA
TIPA Salt of Picloram	No	No	No	No
Other Ingredients	No	No	No	No

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:**

Data on Picloram Potassium Salt:

96-hour LC <sub>50</sub> Bluegill:	13 - 100 mg/l	Bobwhite Quail 8-day Dietary LC <sub>50</sub> :	>5,620 ppm
96-hour LC <sub>50</sub> Rainbow Trout	3.1 – 60mg/l	Mallard Duck Oral LD <sub>50</sub> :	>2,250 mg/kg
48-hour LC <sub>50</sub> Daphnia:	68.3 mg/l		

**Environmental Fate:**

Potassium salt of picloram acid rapidly dissociated to parent acid in the environment. However, picloram may be present in ionized form at environmental pH contributing to high solubility in water and high potential mobility in soils. Picloram variably binds to organic materials in the soils with adsorption increasing as the levels of organic matter and clay increase. It is stable to hydrolysis and anaerobic degradation processes. Under aerobic soil conditions the typical half-life ranges from 167 - 513 days, but may be as little as 30-90 days in the presence of adequate soil moisture and warm temperatures. Photolysis half-life ranges from 2.3 - 9.58 days and is a secondary route of degradation.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method:**

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

**Container Handling and Disposal:**

**Nonrefillable Containers 5 Gallons or Less: Nonrefillable container. DO NOT** reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying.

**Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and

local authorities. Plastic containers are also disposable by incineration. **DO NOT** burn unless allowed by state and local ordinance. If burned stay out of smoke.

**Nonrefillable containers larger than 5 gallons: Nonrefillable container. DO NOT** reuse or refill this container. Offer for recycling if available. If recycling or reconditioning is not available, puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration. **DO NOT** burn unless allowed by state and local ordinance. If burned stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

**Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable containers larger than 5 gallons: Refillable container.** Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

#### 14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this SDS.

##### DOT

Non Regulated

##### IMDG

Non Regulated

##### IATA

Non Regulated

#### 15. REGULATORY INFORMATION

##### EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing.

##### U.S. FEDERAL REGULATIONS

**TSCA Inventory:** This product is exempted from TSCA because it is solely for FIFRA regulated use.

##### **SARA Hazard Notification/Reporting:**

**Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):**

Not Hazardous

##### **Section 313 Toxic Chemical(s):**

None listed

##### **Reportable Quantity (RQ) under U.S. CERCLA:**

None

**RCRA Waste Code:**

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

**State Information:**

Other state regulations may apply. Check individual state requirements.

**California Proposition 65:** Not listed

**16. OTHER INFORMATION**

**National Fire Protection Association (NFPA) Hazard Rating:**

**Rating for this product: Health: 1 Flammability: 1 Reactivity: 0**

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

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