1. IDENTIFICATION

Product Identifier 2,4-Dichlorophenoxyacetic acid
Product Number D069
Distributor Name TOKU-E Company
Distributor Address 715 W Orchard Dr. Suite 3
Bellingham, WA 98225
Phone Number (360)734-1789
Emergency Phone Number (International) +1 (352) 353-3500
Emergency Phone Number (US Only) 1 (800) 535-5053
Safety Data Sheet Issued by TOKU-E USA
CAS-Number [94-75-7]
EC/REACH Number [202-361-1]
Recommended Use A synthetic auxin, a plant growth regulator.
Restrictions of Use Not for human or animal use

2. HAZARD(S) IDENTIFICATION

GHS Classification
- Acute toxicity, oral (Category 4)
- Sensitisation, skin (Category 1)
- Serious eye damage/eye irritation (Category 1)
- Specific organ toxicity, single exposure; respiratory tract irritation (Category 3)
- Hazardous to the aquatic environment, long-term hazard (Category 3)

GHS Label Elements, Including
Signal Word: Danger

Hazard Statements
H302 Harmful if swallowed
H317 May cause an allergic skin reaction
H318 Causes serious eye damage
H335 May cause respiratory irritation
H412 Harmful to aquatic life with long lasting effects

Precautionary Statements
P264 Wash hands/skin thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician IF you feel
P330 Rinse mouth
P501 Dispose of contents/container in accordance with governmental regulation
P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water/soap
P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention.
P321 Specific treatment, see applicable response statements on this label
P362+P364 Take off contaminated clothing and wash it before reuse.
P305+P351+ IF IN EYES: Rinse cautiously with water for several minutes. Remove contact
P338 lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P271 Use only outdoors or in a well-ventilated area.
P304+P340 IF INHALED: Remove
P312 Call a POISON
P403+P233 Store in a well-ventilated
P405 Store locked up.

Hazards not otherwise classified (HNOC) by GHS No Data Available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonym(s) 2,4 D, Diclordon, Dicopur, Fernimine
Formula C₈H₆Cl₂O₃
Molecular Weight 221.04
CAS-Number [94-75-7]
EC/ REACH Number [202-361-1]
Hazardous Components 2,4-Dichlorophenoxyacetic acid
Acute toxicity, oral (Category 4)
Sensitisation, skin (Category 1)
Serious eye damage/eye irritation (Category 1)
Specific organ toxicity, single exposure; respiratory tract irritation (Category 3)
Hazardous to the aquatic environment, long-term hazard (Category 3)

4. FIRST-AID MEASURES

General Advice Consult a doctor/physician if exposed - additional medical care may be required. Show this Safety Data Sheet to the medical provider.

If Inhaled If inhaled, move to fresh air. If not breathing, give artificial respiration and immediately call local emergency telephone number.

In Case of Skin Contact Wash skin thoroughly with soap and water.

In Case of Eye Contact Flush eye with water. After initial flush, remove any contact lenses and continue flushing for at least 15 minutes.

If Swallowed Rinse mouth with water. Immediately call a doctor, physician, or poison control center. Never give anything by mouth to an unconscious person.

Specific Treatment Please see Section 2 precautionary statements and/or Section 11.

5. FIRE-FIGHTING MEASURES
Suitable Extinguishing Media: Water spray, alcohol-resistant foam, dry chemical, carbon dioxide
Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus
Hazardous Combustion Products: Formed under fire conditions: carbon oxides, carbon monoxide, hydrogen chloride gas, hydrogen peroxide

6. ACCIDENTAL RELEASE MEASURES
General: Evacuate personnel to a safe location. Use appropriate personal protective equipment while in contact with product. Avoid dust formation. Ensure adequate ventilation.
Personal Precautions: Prevent contamination of skin, eyes and clothing with appropriate protective equipment (Section 8). Wear respiratory protection.
Environmental Precautions: Recover waste, if possible, and place in suitable closed container for licensed disposal. Prevent spillage - do not let product enter drains.

7. HANDLING AND STORAGE
Precautions for Safe Handling: Wear appropriate protective clothing/gear to prevent contact with skin and eyes. Provide exhaust ventilation or respiratory protection in areas where dust is formed.
Precautions for Safe Storage: Store in a tightly closed container. Protect from humidity.
Incompatibilities: Copper, iron and iron salts.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION
OSHA Permissible Exposure Limits: TWA 10 mg/m$^3$
NIOSH Recommended Exposure Limits: TWA 10 mg/m$^3$
ACGIH Threshold Limit Values: TWA 10 mg/m$^3$
PPE: Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate, use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
PPE: Hand Protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal techniques to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with
applicable laws and good laboratory practices, and wash and dry hands

PPE: Eye Protection
Use a face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)

PPE: Skin and Body Protection
Handle with gloves. Wear protective clothing. Choose body protection according to the amount and concentration of the dangerous substance at the workplace. When deemed needed according to the concentration and amount of this product, use a complete body suit

9. PHYSICAL/ CHEMICAL PROPERTIES
Appearance Powder

Lower Flammability/Explosion Limit No Data Available
Upper Flammability/Explosion Limit No Data Available
Odor No Data Available
Vapor Pressure No Data Available
Odor Threshold No Data Available
Vapor Density No Data Available
pH No Data Available
Relative Density No Data Available
Melting Point/Freezing Point No Data Available
Water Solubility No Data Available
Solubility in Other Solvents No Data Available
Boiling Point and Range No Data Available
Flash Point No Data Available
Evaporation rate No Data Available
Flammability (solid, gas) No Data Available
Partition Coefficient: n-octanol/water No Data Available
Ignition Temperature No Data Available
Auto-Ignition Temperature No Data Available
Decomposition Temperature No Data Available
Viscosity No Data Available
Density No Data Available
Optical Rotation No Data Available
Absorbance (290nm, 5% in H\textsubscript{2}O) No Data Available
Water Content (Loss on Drying) No Data Available

10. STABILITY AND REACTIVITY
Chemical Stability Stable under recommended storage conditions
Possibility of Hazardous Reactions No Data Available
Conditions to Avoid No Data Available
Materials to Avoid Strong oxidizing agents, copper, iron and iron salts.
Hazardous Decomposition Products Formed under fire conditions: carbon oxides, carbon monoxide, hydrogen chloride gas, hydrogen peroxide
11. TOXICOLOGICAL INFORMATION

Oral LD$_{50}$ Rat: 375 mg/kg
Inhalation LC$_{50}$ No Data Available
Dermal LD$_{50}$ Rat: 1500 mg/kg
Intraperitoneal LD$_{50}$ Rat: 666 mg/kg
Intravenous LD$_{50}$ Rabbit: 400 mg/kg
Subcutaneous LD$_{50}$ No Data Available
Skin Corrosion/Irritation Rabbit: 500 mg/24H, mild
Serious Eye Damage/ Eye Irritation Rabbit: 750 ug/25H, severe
Respiratory or Skin Sensitization No Data Available
Germ Cell Mutagenicity

Salmonella typhimurium, 250 ug/plate
Mutation in microorganisms
Escherichia coli, 5 mg/disc
DNA repair
Human fibroblast, 1 umol/L
Unscheduled DNA synthesis
Human lymphocyte, 10 mg/L
Sister chromatid exchange

Carcinogenicity
Identified within National Toxicology Program Report
on Carcinogens as "Not classifiable as a human
carcinogen."
Classified by International Agency for Research on
Cancer Monograph as Group 2B, possibly
carcinogenic to humans.

Reproductive Toxicity
Rat: Female, TDLo 220 ug/kg, oral
1-22 days post conception
Toxic Effects
Reproductive - Specific Developmental Abnormalities -
blood and lymphatic systems.
Rat: Female, TDLo 1 gm/kg, oral
6-15 days post conception
Toxic Effects
Reproductive - Specific Developmental Abnormalities -
musculoskeletal system
Reproductive - Effects on embryo or fetus -
fetotoxicity, fetal death
Rat: Female, TDLo 500 mg/kg, oral
6-15 days post conception
Toxic Effects
Reproductive - Specific Developmental Abnormalities -
central nervous system, urogenital system

Specific Target Organ Toxicity: Single
Exposure (GHS)
Specific organ toxicity, single exposure; respiratory
tract irritation (Category 3)
Specific Target Organ Toxicity: Repeated
Exposure (GHS)
No Data Available
Aspiration Hazard
No Data Available
Potential Health Effects
See Section 2, Hazard(s) Identification
Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical,
and toxicological properties of this material have not
been thoroughly investigated
12. ECOLOGICAL INFORMATION

Toxicity

- LC₅₀ Lepomis macrochirus 180 mg/L 96h
- EC₅₀ Daphnia magna 100 mg/L 48h
- EC₅₀ Pseudokirchneriella subcapitata 0.024-0.026 mg/L -96h

Persistence and Degradability
No Data Available

Bio accumulative Potential
No Data Available

Mobility in Soil
No Data Available

PBT and vPvB Assessment
No Data Available

In the absence of complete ecological information, treat product as environmentally hazardous. Use proper storage, handling, and disposal to prevent unintentional release into the environment.

13. DISPOSAL CONCENTRATIONS

Product
Dispose of product through a licensed disposal company.

Contaminated Packaging
Dispose of as unused product.

14. TRANSPORTATION INFORMATION

DOT (US)
UN Number: 3077 Class 9, Packing group III
Proper shipping name: Environmentally hazardous substances, solid n.o.s. (2,4-Dichlorophenoxyacetic acid)
Marine pollutant: Yes
Poison inhalation hazard: no

IMDG
UN Number: 3077 Class 9, Packing group III
Proper shipping name: Environmentally hazardous substances, solid n.o.s. (2,4-Dichlorophenoxyacetic acid)
EMS-no. F-A, S-F
Marine pollutant: No

IATA
UN Number: 3077 Class 9, Packing group III
Proper shipping name: Environmentally hazardous substances, solid n.o.s. (2,4-Dichlorophenoxyacetic acid)

15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
CAS-Number [94-75-7]
Revision Date: 2016/10/12
The above components are subject to reporting levels established by SARA Title III, Section 313

SARA 311/312 Hazards
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 311/312

Pennsylvania Right to Know
2,4-Dichlorophenoxyacetic acid
CAS-Number [94-75-7]
Revision Date 2016/10/12

New Jersey Right to Know
2,4-Dichlorophenoxyacetic acid
CAS-Number [94-75-7]
Revision Date 2016/10/12

California Prop. 65 Components
No
This product does not contain any chemicals known to the State of California to cause birth defects, cancer, or any other reproductive harm

EU Information
SDS in accordance with REACH 1907/2006
EC/ REACH Number [202-361-1]
CAS-Number [94-75-7]
Name: 2,4-Dichlorophenoxyacetic acid
Envisaged Registration Deadline: 30/11/2010
See GHS Information under Section 2, Hazard Identification

16. OTHER INFORMATION
Revision Date: 2016-10-12

HMIS Rating
Health Hazard 2
Chronic Health Hazard N
Flammability 1
Physical Hazard 0

NFPA Rating
Health Hazard 2
Fire Hazard 1
Reactivity Hazard 0

This safety data sheet represents TOKU-E Company’s current understanding of the hazards associated with this product. The stated hazard information is based on existing experimental data and is not guaranteed to be all-inclusive. TOKU-E Company strives to maintain current and comprehensive safety information but recognizes that this safety data sheet may require revision as new information becomes available. TOKU-E Company shall not be held liable for damage or injury resulting from contact, handling, or storage of this product.