

SAFETY DATA SHEET



Revision date 27-Oct-2022

Revision Number 1

1. Identification

Product identifier

Product Name D-638

Other means of identification

Product Code(s) 42750-36

UN/ID no NA1993

Synonyms None

Registration Number(s) 42750-36

Recommended use of the chemical and restrictions on use

Recommended use Herbicide

Restrictions on use Follow label instructions

Details of the supplier of the safety data sheet

Company Address

ALBAUGH LLC
1525 NE 36th St,
Ankeny, IA 50021 USA

Emergency telephone number

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident:

- Call CHEMTREC Day or Night within USA and Canada: 1-800-424-9300, Outside USA and Canada: +1 703-741-5970

(collect calls accepted)

For Medical Emergencies Only:

- Call Albaugh LLC Day or Night within USA and Canada: 1-888-347-6732

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 Certain sections of this SDS are superseded by federal law governed by US EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. Hazard(s) identification

Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 2
Aspiration hazard	Category 1

Hazards not otherwise classified (HNOC)

Not applicable

Label elements**Danger****Hazard statements**

Harmful if swallowed
 Harmful if inhaled
 Causes serious eye irritation
 Suspected of causing cancer
 May be fatal if swallowed and enters airways

**Appearance** viscous**Physical state** Liquid**Odor** Slight Organic**Precautionary Statements - Prevention**

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Wear protective gloves/protective clothing/eye protection/face protection
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 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
 IF INHALED: Remove person to fresh air and keep comfortable for breathing
 IF SWALLOWED: Immediately call a POISON CENTER or doctor
 Do NOT induce vomiting
 Rinse mouth

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Unknown acute toxicity**Other information**

Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

3. Composition/information on ingredients**Substance**

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	Active Ingredient
Solvent Naphtha (Petroleum), Heavy Aromatic	64742-94-5	30.89-32.80	
2,4-D Butoxyethyl ester	1929-73-3	23.77-25.23	X

2-Butoxyethanol	111-76-2	19.00-21.00	
2,4-D	94-75-7	13.11-14.49	X
Other Ingredients	PROPRIETARY	>8.0	

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention. Immediate medical attention is required.
Inhalation	Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical advice/attention. Delayed pulmonary edema may occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Skin contact	Wash skin with soap and water.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get immediate medical advice/attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. See section 8 for more information.

Most important symptoms and effects, both acute and delayed

Symptoms	Difficulty in breathing. Coughing and/ or wheezing. Dizziness. May cause redness and tearing of the eyes. Burning sensation.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances.
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5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	No information available.
Explosion data	
Sensitivity to mechanical impact	None.

Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists.

Other information Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Avoid breathing vapors or mists. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up. Store away from other materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
2-Butoxyethanol 111-76-2	TWA: 20 ppm	TWA: 50 ppm TWA: 240 mg/m ³ (vacated) TWA: 25 ppm (vacated) TWA: 120 mg/m ³ (vacated) S* S*	IDLH: 700 ppm TWA: 5 ppm TWA: 24 mg/m ³
2,4-D 94-75-7	TWA: 10 mg/m ³ inhalable particulate matter	TWA: 10 mg/m ³ (vacated) TWA: 10 mg/m ³	IDLH: 100 mg/m ³ TWA: 10 mg/m ³

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific

regulatory bodies

Appropriate engineering controls

Engineering controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection If splashes are likely to occur, wear safety glasses with side-shields.

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid
Appearance viscous
Color yellow
Odor Slight Organic
Odor threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	4.0 5.0	
pH (as aqueous solution)		
Melting point / freezing point	No data available	
Boiling point / boiling range	No data available	
Flash point	95 203	
Evaporation rate	No data available	
Flammability (solid, gas)	No data available	
Flammability Limit in Air		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	25 mmHg a 24 C	
Vapor density	No data available	
Relative density	No data available	
Water solubility	No data available	
Solubility(ies)	Emulsifies	
Partition coefficient	No data available	
Autoignition temperature	No data available	
Decomposition temperature		
Kinematic viscosity	No data available	
Dynamic viscosity	No data available	
<u>Other information</u>		
Explosive properties	No information available	
Oxidizing properties	No information available	
Softening point	No information available	

Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	1.15-1.21*
Bulk density	No information available

**Listed density is an approximate value and does not necessarily represent that of a specific batch*

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Excessive heat.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).
Eye contact	Specific test data for the substance or mixture is not available. May cause irritation. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
Skin contact	Repeated exposure may cause skin dryness or cracking. Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
Ingestion	Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. (based on components).

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Difficulty in breathing. Coughing and/ or wheezing. Dizziness. May cause redness and tearing of the eyes.
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Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

Unknown acute toxicity

Oral LD50	> 1,030 mg/kg
Dermal LD50	> 5,000 mg/kg
Inhalation LC50	> 2.06 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
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Solvent Naphtha (Petroleum), Heavy Aromatic 64742-94-5	> 5000 mg/kg (Rat)	> 2 mL/kg (Rabbit)	> 590 mg/m ³ (Rat) 4 h
2,4-D Butoxyethyl ester 1929-73-3	= 831 mg/kg (Rat)	= 4000 mg/kg (Rabbit) > 2 g/kg (Rabbit)	-
2-Butoxyethanol 111-76-2	= 470 mg/kg (Rat)	= 435 mg/kg (Rabbit)	= 450 ppm (Rat) 4 h = 486 ppm (Rat) 4 h
2,4-D 94-75-7	= 420 mg/kg (Rat) = 375 mg/kg (Rat)	= 1400 mg/kg (Rabbit) = 1500 mg/kg (Rat)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Causes serious eye irritation.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
2,4-D Butoxyethyl ester 1929-73-3	-	Group 2B	-	-
2-Butoxyethanol 111-76-2	-	Group 3	-	-
2,4-D 94-75-7	-	Group 2B	-	X

Legend

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans Group 3 - Not Classifiable as to Carcinogenicity in Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Target organ effects	Liver, Kidney, Respiratory system, Eyes, Skin, Central nervous system, Blood, hematopoietic system.
Aspiration hazard	May be fatal if swallowed and enters airways.
Other adverse effects	No information available.
Interactive effects	No information available.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Solvent Naphtha (Petroleum), Heavy	EC50: =2.5mg/L (72h, Skeletonema costatum)	LC50: =19mg/L (96h, Pimephales promelas)	-	EC50: =0.95mg/L (48h, Daphnia magna)

Aromatic 64742-94-5		LC50: =2.34mg/L (96h, Oncorhynchus mykiss) LC50: =1740mg/L (96h, Lepomis macrochirus) LC50: =45mg/L (96h, Pimephales promelas) LC50: =41mg/L (96h, Pimephales promelas)		
2-Butoxyethanol 111-76-2	-	LC50: =1490mg/L (96h, Lepomis macrochirus) LC50: =2950mg/L (96h, Lepomis macrochirus)	-	EC50: >1000mg/L (48h, Daphnia magna)
2,4-D 94-75-7	EC50: 23.7 - 24.7mg/L (96h, Pseudokirchneriella subcapitata) EC50: 20 - 52mg/L (120h, Pseudokirchneriella subcapitata)	LC50: =20mg/L (96h, Cyprinus carpio) LC50: 127.9 - 141.7mg/L (96h, Cyprinus carpio) LC50: =180mg/L (96h, Lepomis macrochirus) LC50: 77 - 157mg/L (96h, Oncorhynchus mykiss) LC50: 2450 - 3160mg/L (96h, Oryzias latipes) LC50: 103 - 171mg/L (96h, Pimephales promelas) LC50: =165mg/L (96h, Pimephales promelas) LC50: =70.7mg/L (96h, Poecilia reticulata) LC50: 6.3 - 11.0mg/L (96h, Poecilia reticulata)	-	EC50: 17.6 - 32.6mg/L (48h, Daphnia magna) EC50: =417.8mg/L (72h, Daphnia magna)

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Solvent Naphtha (Petroleum), Heavy Aromatic 64742-94-5	6.1
2-Butoxyethanol 111-76-2	0.81
2,4-D 94-75-7	2.58 - 2.83

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT: Shipping Description	Containers < 40 gallons - Not Regulated. Containers ≥ 40 gallons - NA1993, Combustible Liquid, N.O.S. (2-butoxyethanol, naphthalene), PG III, RQ (2,4-D Ester, 2,4-D acid)
UN/ID no	NA1993
Transport hazard class(es)	Combustible
Packing group	III

15. Regulatory information

U.S. EPA Label Information

EPA Pesticide Registration Number 42750-36

EPA Pesticide Label Corrosive. causes irreversible eye damage. Harmful if swallowed, inhaled or absorbed through skin.

International Inventories

TSCA	Does not comply
DSL/NDSL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AIIC	Does not comply

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AIIC - Australian Inventory of Industrial Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
2,4-D Butoxyethyl ester - 1929-73-3	0.1
2,4-D - 94-75-7	0.1

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
2,4-D Butoxyethyl ester 1929-73-3	100 lb	-	-	X
2,4-D 94-75-7	100 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
2,4-D Butoxyethyl ester 1929-73-3	100 lb	-
2,4-D 94-75-7	100 lb	-

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
2,4-D Butoxyethyl ester 1929-73-3	X	X	X
2-Butoxyethanol 111-76-2	X	-	X
2,4-D 94-75-7	X	X	X

16. Other information

NFPA Health hazards 3 Flammability 1 Instability 0 Special hazards -
HMIS Health hazards 3* Flammability 1 Physical hazards 0 Personal protection X
*Chronic Hazard Star Legend * = Chronic Health Hazard*

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: Exposure controls/personal protection**

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)
 Ceiling Maximum limit value * Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Revision date 27-Oct-2022
Revision Note No information available.

Disclaimer

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End of Safety Data Sheet