



SAFETY DATA SHEET

DFT 6 EC

Section 1. Identification

Product identifier : DFT 6 EC
SDS # : 581
Other means of identification : EPA Registration Number: 34704-867
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Cotton defoliant.
Uses advised against
Not available.

Supplier's details : LOVELAND PRODUCTS, INC.
 P.O. Box 1286
 Greeley, CO 80632-1286
Telephone no. : 1-888-574-2878 (Customer Service)
Email : retail-SDS2@nutrien.com
Emergency telephone number (with hours of operation) : CHEMTREC (24 hrs): 1-800-424-9300 or +1-703-527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 4
 ACUTE TOXICITY (oral) - Category 4
 ACUTE TOXICITY (inhalation) - Category 4
 EYE IRRITATION - Category 2A
 CARCINOGENICITY - Category 2
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
 ASPIRATION HAZARD - Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Section 2. Hazards identification

Hazard statements	: Combustible liquid. Harmful if swallowed or if inhaled. May be fatal if swallowed and enters airways. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of causing cancer.
Precautionary statements	
General	: Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Prevention	: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Keep away from flames and hot surfaces. No smoking. Use only outdoors or in a well-ventilated area. Avoid breathing vapor or spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.
Response	: IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. 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 or attention.
Storage	: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	: This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Please refer to the product label.
Hazards not otherwise classified	: None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	% (w/w)	CAS number
tribufos	70.5	78-48-8
solvent naphtha (petroleum), heavy aromatic	20 - 26	64742-94-5
naphthalene	<2.4	91-20-3
Other ingredients	<5	-

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Begin eye irrigation immediately. Exposures to eye irritants may require medical evaluation following decontamination if pain or irritation persists. Immediately rinse eyes with large quantities of water or saline for a minimum of 15 minutes. If possible, remove contact lenses being careful not to cause additional eye damage. If the initial water supply is insufficient, keep the affected area wet with a moist cloth and transfer the person to the nearest place where rinsing can be continued for the recommended length of time. For additional advice call the medical emergency number on this SDS or your poison center or doctor.
- Inhalation** : If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Remove person to fresh air and keep comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. For additional advice call the medical emergency number on this SDS or your poison center or doctor.
- Ingestion** : Get medical attention immediately. For additional advice call the medical emergency number on this SDS or your poison center or doctor. Do not induce vomiting unless directed to do so by medical personnel. Aspiration hazard if swallowed. Can enter lungs and cause damage. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. See ingestion effects.
- Skin contact** : May cause skin irritation. May be harmful if absorbed through skin.
- Ingestion** : Harmful if swallowed. Aspiration hazard - May be fatal if swallowed and enters airways. This product is a cholinesterase inhibitor. Typical symptoms of overexposure to cholinesterase inhibitors include headache, nausea, dizziness, sweating, salivation, runny nose and eyes. This may progress to muscle twitching, weakness, tremor, incoordination, vomiting, abdominal cramps and diarrhea in more serious poisonings. A life-threatening poisoning is signified by loss of consciousness, incontinence, convulsions and respiratory depression with a secondary cardiovascular component.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
irritation, headache
dizziness/vertigo
drowsiness/fatigue
shortness of breath/breathing difficulty
- Skin contact** : See ingestion effects.

Section 4. First aid measures

- Ingestion** : Adverse symptoms may include the following:
 headache, dizziness/vertigo
 nausea or vomiting
 muscle weakness
 stomach pains, diarrhea

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically and supportively. This product is an organophosphate insecticide. Contact poison treatment specialist immediately if ingested or inhaled. This product inhibits cholinesterase resulting in stimulation of the central nervous system, the parasympathetic nervous system, and the somatic motor nerves. Poisoning with this product also results in cardiovascular and respiratory symptoms which must be treated as separate pathological entities apart from the cholinergic effects. If exposed, plasma and red blood cell cholinesterase tests may indicate degree of exposure (baseline data are useful). Do not wait for laboratory confirmation to treat patients with strong clinical evidence of poisoning. In cases of severe acute poisoning, use antidotes immediately after establishing an open airway and respiration. Use atropine sulfate to reverse cholinergic symptoms; maintain a systematic, symptomatic treatment of the cardiovascular and respiratory effects, even though cholinergic symptoms have ceased. Do not give central nervous system depressants. Watch for pulmonary edema, which may develop in serious cases of poisoning even after 12 hours. With oral exposure, the decision of whether to induce vomiting or not should be made by an attending physician. NOTE: Product contains a petroleum distillate solvent. Vomiting may cause aspiration pneumonia.

- Specific treatments** : See above.

- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Decontamination measures may be necessary. Personnel and equipment must be checked and decontaminated prior to leaving the area.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.

- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 sulfur oxides
 phosphorus oxides

Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Contain and collect the water used to fight the fire for later treatment and disposal. Do not direct water into the container. Water may cause boil over and spread burning liquid.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused adverse impacts (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Apply this product only as specified on the label. This product is not for use in aquatic settings.

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Do not use a vacuum truck to transfer this material. Put on appropriate personal protective equipment (see Section 8). Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Use appropriate equipment to put the spilled substance in a container for reuse or disposal. Recycle to process, if possible.
or
Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Read label before use. Apply this product only as specified on the label. Do not handle until all safety precautions have been read and understood. Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not swallow. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

Section 7. Handling and storage

Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

- : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

- : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
solvent naphtha (petroleum), heavy aromatic naphthalene	ACGIH TLV (United States). RCP-TWA: 100 mg/m ³ , (Total hydrocarbon) ACGIH TLV (United States, 1/2023). Absorbed through skin. TWA: 10 ppm 8 hours. TWA: 52 mg/m ³ 8 hours. NIOSH REL (United States, 10/2020). TWA: 10 ppm 10 hours. TWA: 50 mg/m ³ 10 hours. STEL: 15 ppm 15 minutes. STEL: 75 mg/m ³ 15 minutes. OSHA PEL (United States, 5/2018). TWA: 10 ppm 8 hours. TWA: 50 mg/m ³ 8 hours.

Biological exposure indices

Ingredient name	Exposure indices
naphthalene	ACGIH BEI (United States, 1/2023) BEI: Nonquantitative: Biological monitoring should be considered for this compound based on the review; however, a specific BEI® could not be determined due to insufficient data., 1-naphthol + 2-naphthol [(sample not specified)]. Sampling time: end of shift.

Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Section 8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Contact your personal protective equipment supplier to verify the compatibility of the equipment for the intended purpose.

General information : Refer to product label or packaging for specific PPE requirements. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when the product label or a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the product label or risk assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if the product label or risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body must be used as specified on the product label or if a risk assessment indicates this is necessary.

Other skin protection : Appropriate footwear and any additional skin protection measures must be used as specified on the product label or if a risk assessment indicates this is necessary.

Respiratory protection : A respirator meeting the appropriate standard or certification must be selected based on the product label or the hazard and potential for exposure. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

For U.S. work sites where respiratory protection is required, ensure that a respiratory protection program meeting 29 CFR 1910.134 requirements is in place.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.

Color : Amber.

Odor : Pungent.

Odor threshold : Not available.

pH : Not available.

Melting point/freezing point : <-28.9°C (<-20°F)

Section 9. Physical and chemical properties and safety characteristics

Boiling point, initial boiling point, and boiling range : >150°C (>302°F)

Flash point : Closed cup: 84.4°C (183.9°F) [Setaflash]

Flammability : Not available.

Lower and upper explosion limit/flammability limit : Lower: 0.7%
Upper: 5%

Vapor pressure :

Ingredient name	Vapor Pressure at 20°C (68°F)			Vapor pressure at 50°C (122°F)		
	mm Hg	kPa	Method	mm Hg	kPa	Method
solvent naphtha (petroleum), heavy aromatic	0.0225	0.003				

Relative vapor density : Not available.

Relative density : Not available.

Density : 1.01 to 1.02 g/cm³

Bulk density : 8.42 to 8.51 lb/gal

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature :

Ingredient name	°C	°F	Method
solvent naphtha (petroleum), heavy aromatic	220 to 250	428 to 482	ASTM E 659

Decomposition temperature : Not available.

Viscosity : Not available.

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Keep away from heat and sources of ignition. Avoid temperatures exceeding the flash point. Keep away from incompatible materials.

Incompatible materials : Strong oxidizing materials, strong acids, strong alkalis.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
DFT 6 EC	LC50 Inhalation Dusts and mists	Rat	2.34 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	349 mg/kg	-
tribufos	LC50 Inhalation Vapor	Rat	2460 mg/m ³	4 hours
	LD50 Dermal	Rabbit	97 mg/kg	-
	LD50 Dermal	Rat	168 mg/kg	-
	LD50 Oral	Rat	150 mg/kg	-
naphthalene	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	490 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
tribufos	Skin - Moderate irritant	Rabbit	-	0.5 MI	-
solvent naphtha (petroleum), heavy aromatic	Skin - Mild irritant	Rabbit	-	24 hours 500 uL	-
naphthalene	Skin - Mild irritant	Rabbit	-	495 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 0.05 MI	-

Conclusion/Summary

- Skin** : May cause skin irritation.
- Eyes** : Causes serious eye irritation.
- Respiratory** : May cause respiratory irritation.

Sensitization

Not available.

Conclusion/Summary

- Skin** : No known significant effects or critical hazards.
- Respiratory** : No known significant effects or critical hazards.

Mutagenicity

Not available.

- Conclusion/Summary** : No known significant effects or critical hazards.

Carcinogenicity

Not available.

- Conclusion/Summary** : Suspected of causing cancer.

Classification

Product/ingredient name	OSHA	IARC	NTP
naphthalene	-	2B	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

Not available.

- Conclusion/Summary** : No known significant effects or critical hazards.

Teratogenicity

Not available.

- Conclusion/Summary** : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
DFT 6 EC	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Product/ingredient name	Result
DFT 6 EC solvent naphtha (petroleum), heavy aromatic	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. See ingestion effects.
- Skin contact** : May cause skin irritation. May be harmful if absorbed through skin.
- Ingestion** : Harmful if swallowed. Aspiration hazard - May be fatal if swallowed and enters airways. This product is a cholinesterase inhibitor. Typical symptoms of overexposure to cholinesterase inhibitors include headache, nausea, dizziness, sweating, salivation, runny nose and eyes. This may progress to muscle twitching, weakness, tremor, incoordination, vomiting, abdominal cramps and diarrhea in more serious poisonings. A life-threatening poisoning is signified by loss of consciousness, incontinence, convulsions and respiratory depression with a secondary cardiovascular component.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
irritation, headache
dizziness/vertigo
drowsiness/fatigue
shortness of breath/breathing difficulty
- Skin contact** : See ingestion effects.
- Ingestion** : Adverse symptoms may include the following:
headache, dizziness/vertigo
nausea or vomiting
muscle weakness
stomach pains, diarrhea

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : See above.

Potential delayed effects : See below.

Long term exposure

Section 11. Toxicological information

Potential immediate effects : See above.

Potential delayed effects : See below.

Potential chronic health effects

Not available.

Conclusion/Summary : Repeated or prolonged overexposure may result in chronic health effects.

General : Repeated exposure to cholinesterase inhibitors may, without warning, cause prolonged susceptibility to very small doses of any cholinesterase inhibitor.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
DFT 6 EC	349	2500	N/A	N/A	2.34
tribufos	150	97	N/A	2.46	N/A
naphthalene	490	N/A	N/A	N/A	N/A

Other information : Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
DFT 6 EC	Acute EC50 0.0037 to 0.13 mg/l	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 0.19 to 0.39 mg/l	Fish - <i>Lepomis macrochirus</i>	96 hours
	Acute EC50 450000 µg/l Marine water	Algae - <i>Skeletonema costatum</i>	72 hours
	Acute EC50 366 µg/l Marine water	Algae - <i>Skeletonema costatum</i> - Exponential growth phase	96 hours
	Acute EC50 28 µg/l Marine water	Crustaceans - <i>Penaeus aztecus</i> - Adult	48 hours
	Acute LC50 6.63 µg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 130 µg/l Marine water	Fish - <i>Leiostomus xanthurus</i>	96 hours
	Chronic NOEC 200 µg/l Marine water	Algae - <i>Skeletonema costatum</i>	96 hours
	Chronic NOEC 1.56 ppb Fresh water	Daphnia - <i>Daphnia magna</i>	21 days
	Chronic NOEC 2.49 ppb	Fish - <i>Pimephales promelas</i>	35 days
naphthalene	Acute EC50 1.6 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 2350 µg/l Marine water	Crustaceans - <i>Palaemonetes pugio</i>	48 hours
	Acute LC50 213 µg/l Fresh water	Fish - <i>Melanotaenia fluviatilis</i> - Larvae	96 hours
	Chronic NOEC 0.5 mg/l Marine water	Crustaceans - <i>Uca pugnax</i> - Adult	3 weeks
	Chronic NOEC 1.5 mg/l Fresh water	Fish - <i>Oreochromis mossambicus</i>	60 days

Section 12. Ecological information

Conclusion/Summary : Very toxic to aquatic life with long lasting effects. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply where run-off is likely to occur. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate water when disposing of equipment washwaters and rinsate. Apply this product only as specified on the label.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
tribufos	5.7	-	High
solvent naphtha (petroleum), heavy aromatic	2.8 to 6.5	99 to 5780	High
naphthalene	3.4	36.5 to 168	Low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : See above.

Section 13. Disposal considerations

Disposal methods : Read label before use. Apply this product only as specified on the label. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Follow disposal instructions on label. Recycling decontaminated containers is the best option of container disposal. The Agricultural Container Recycling Council (ACRC) operates the national recycling program. To contact your state and local ACRC recycler visit the ACRC web page at <http://www.acrecycle.org/>. Do not contaminate water, food or feed by storage or disposal. Disposal should be in accordance with applicable regional, national and local laws and regulations.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Naphthalene	91-20-3	Listed	U165

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	NA1993 (See Additional Information.)	UN3082	UN3082	UN3082
UN proper shipping name	COMBUSTIBLE LIQUID, N.O.S. (Petroleum distillates)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (tribufos, naphthalene)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (tribufos, naphthalene)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (tribufos, naphthalene)

Section 14. Transport information

Transport hazard class(es)	Combustible liquid. 	9  	9  	9  
Packing group	III	III	III	III
Environmental hazards	Yes.	Yes.	Yes.	Yes.

Additional information

DOT Classification

: **This product in a non-bulk package (less than or equal to 119 gal) is not regulated when transported by motor vehicle, rail car or aircraft within the US.**

This product in a bulk package maybe exempt from regulation if requirements of 49CFR173.150(f)(3) are met.

"RQ" must be shown on a shipping document when a single package exceeds the size of the reportable quantity [Reportable quantity 4208.8 lbs / 1910.8 kg [497.31 gal / 1882.5 L].

TDG Classification

: Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.43-2.45 (Class 9), 2.7 (Marine pollutant mark).
Non-bulk packages of this product are not regulated as dangerous goods when transported by road or rail.

IMDG

: This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

IATA

: This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Section 15. Regulatory information

Australia	: Not determined.
Canada	: At least one component is not listed in DSL but all such components are listed in NDSL.
China	: Not determined.
Eurasian Economic Union	: Russian Federation inventory : Not determined.
Japan	: Japan inventory (CSCL) : Not determined. Japan inventory (ISHL) : Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: Not determined.
U.S. Federal regulations	: TSCA 8(a) PAIR : naphthalene TSCA 8(a) CDR Exempt/Partial exemption : Not determined Clean Water Act (CWA) 307 : naphthalene Clean Water Act (CWA) 311 : naphthalene
Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)	: Listed
Clean Air Act Section 602 Class I Substances	: Not listed
Clean Air Act Section 602 Class II Substances	: Not listed
DEA List I Chemicals (Precursor Chemicals)	: Not listed
DEA List II Chemicals (Essential Chemicals)	: Not listed
SARA 304 RQ	: Not applicable.
<u>SARA 311/312</u>	
Classification	: FLAMMABLE LIQUIDS - Category 4 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	tribufos naphthalene	78-48-8 91-20-3	70.5 < 2.4
Supplier notification	tribufos naphthalene	78-48-8 91-20-3	70.5 < 2.4

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Section 15. Regulatory information

State regulations

- Massachusetts** : The following components are listed: naphthalene
New York : The following components are listed: naphthalene
New Jersey : The following components are listed: MERPHOS OXIDE; naphthalene
Pennsylvania : The following components are listed: naphthalene
California Prop. 65

 **WARNING:** This product can expose you to chemicals including S,S,S-Tributyl phosphorotrithioate, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

US EPA

EPA REG. NO. : 34704-867

EPA Statement

This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER

Corrosive. Causes skin burns and irreversible eye damage. May be fatal if absorbed through skin or swallowed. Harmful if inhaled. Do not get in eyes or on skin or clothing. Avoid breathing vapor or spray mists.

Section 16. Other information

History

Date of issue/Date of revision : 10/31/2024

Date of previous issue : No previous validation

Version : 1

Key to abbreviations

- : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 SGG = Segregation Group
 UN = United Nations

Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 4	On basis of test data
ACUTE TOXICITY (oral) - Category 4	On basis of test data
ACUTE TOXICITY (inhalation) - Category 4	On basis of test data
EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
ASPIRATION HAZARD - Category 1	Weight of evidence

 Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

Supply chain partners must ensure they pass this SDS, and all other relevant safety information to their customers.

DISCLAIMER AND LIMITATION OF LIABILITY

The information and recommendations contained in this Safety Data Sheet ("SDS") relate only to the specific material referred to herein (the "Material") and do not relate to the use of such Material in combination with any other material or process. The information and recommendations contained herein are believed to be current and correct as of the date of this SDS. HOWEVER, THE INFORMATION AND RECOMMENDATIONS ARE PRESENTED WITHOUT WARRANTY, REPRESENTATION OR LICENSE OF ANY KIND, EXPRESS OR IMPLIED, WITH RESPECT TO THEIR ACCURACY, CORRECTNESS OR COMPLETENESS, AND THE SELLER, SUPPLIER AND MANUFACTURER OF THE MATERIAL AND THEIR RESPECTIVE AFFILIATES (COLLECTIVELY, THE "SUPPLIER") DISCLAIM ALL LIABILITY FOR RELIANCE ON SUCH INFORMATION AND RECOMMENDATIONS. This SDS is not a guarantee of safety. A buyer or user of the Material (a "Recipient") is responsible for ensuring that it has all current information necessary to safely use the Material for its specific purpose.

FURTHERMORE, THE RECIPIENT ASSUMES ALL RISK IN CONNECTION WITH THE USE OF THE MATERIAL. THE RECIPIENT ASSUMES ALL RESPONSIBILITY FOR ENSURING THE MATERIAL IS USED IN A SAFE MANNER IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL, HEALTH, SAFETY AND SECURITY LAWS, POLICIES AND GUIDELINES. THE SUPPLIER DOES NOT WARRANT THE MERCHANTABILITY OF THE MATERIAL OR THE FITNESS OF THE MATERIAL FOR ANY PARTICULAR USE AND ASSUMES NO RESPONSIBILITY FOR INJURY OR DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY OR RELATED TO THE USE OF THE MATERIAL.