WINFIELD UNITED

Safety Data Sheet

Trust®

(EPA Reg. No. 1381-261)

NFPA HAZARD RATING

0	Least		
1	Slight	2	Health
2	Moderate	2	Flammability
3	High	1	Reactivity
4	Severe		

U.S. TRANSPORT SUMMARY

Regulated in quantities of 2.5 gallons or greater; see Section 14 for full information.

SECTION 1: IDENTIFICATION

Product Name: Trust®
EPA Registration #: 1381-261
Common Name: Trifluralin herbicide
Chemical Description: Trifluralin (α, α, α -trifluoro-2,6-dinitro-N, N-dipropyl-p-toluidine)
Recommended Uses: Agricultural Herbicide. See product label for complete list of uses and use sites.
Restrictions for Use: See product label for information regarding restrictions on the use of this product.

Manufactured For:
WINFIELD SOLUTIONS, LLC
P. O. Box 64589
St. Paul, MN 55164-0589

MEDICAL EMERGENCY TELEPHONE NUMBER: 1-877-424-7452 (24hrs)

Non-Emergency Business Inquiries: 1-855-494-6343
Mon – Fri 8am – 5pm (Central Standard Time)

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL:
CHEMTREC 1-800-424-9300 (24 hours)

SECTION 2: HAZARDS IDENTIFICATION

OSHA HCS 2012 CLASSIFICATION: This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200).

Eye Irritation Category 2B; Skin Irritation Category 2; Skin Sensitization Category 1; Carcinogenicity Category 2; Aspirational Hazard Category 1; Flammable Liquids Category 4

EMERGENCY OVERVIEW

Appearance: Orange **Physical State:** Liquid **Odor:** Aromatic

SIGNAL WORD: DANGER

HAZARD STATEMENTS:
May be fatal if swallowed and enters airways.
May cause an allergic skin reaction.
Causes skin irritation.
Causes eye irritation.
Suspected of causing cancer.
Combustible Liquid

Percent of product with unknown toxicity: 0%

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 and face protection. Avoid breathing mist or spray. Wash skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Keep away from flames and hot surfaces. – No smoking.

Response: **If swallowed:** Immediately call a poison control center (1-877-424-7452) or doctor for treatment advice. Do NOT induce vomiting.
If on skin: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.

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	If in eyes: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
	If exposed or concerned: Get medical attention.
	In case of fire: Use foam, dry chemical, carbon dioxide or water fog to extinguish.
Storage:	Store locked up in a well-ventilated place. Keep cool.
Disposal:	Dispose of contents/container in accordance with Federal, state and local regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	% (wt)	CAS Reg. #
Trifluralin	44.50%	1582-09-8
Naphthalene	4.80-4.92%	91-20-3

*Ingredients not specifically listed are non-hazardous and are considered to be confidential business information under 29 CFR 1910.1200(i).

See Section 8 for exposure limits.

SECTION 4: FIRST AID MEASURES

Inhalation:	Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs.
Ingestion:	Seek medical attention or call a poison control center immediately for treatment advice. Do NOT induce vomiting unless instructed to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
Eyes:	Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention if irritation persists.
Skin:	Remove contaminated clothing and wash it separately before re-using. Flush skin with water and then wash with soap and water. Seek medical attention if irritation persists or a rash occurs.
Note to Physician:	This product contains an aromatic hydrocarbon and can be extremely harmful if swallowed. Aspiration of this product may produce a severe pneumonitis. Stomach lavage with a cuffed endotracheal tube in place and immediate administration of activated charcoal, 6 to 8 heaping teaspoonfuls with water, should be considered. Treatment is otherwise symptomatic and supportive.

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water fog, foam, dry chemical, carbon dioxide (CO2)
Unsuitable Extinguishing Media: Water stream or jet as it may spread fire
Special Fire Fighting Procedures: Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Avoid breathing vapors; keep upwind. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition has passed.
Hazardous Combustion Products: Toxic gases may be formed in a fire situation including but not limited to carbon oxides, and nitrogen oxides.
Unusual Fire and Explosion Hazards: Vapors will ignite when exposed to heat, flame and other sources of ignition. Vapors can travel to a source of ignition and flash back causing an explosion and fire. Closed containers may explode from vapor expansion in high heat. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.
Environmental Precautions: Keep spilled product from entering sewers or waterways.
Methods for Containment: Contain spilled product by diking area with sand or earth.
Methods for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite or other appropriate material. Vacuum, scoop, or sweep up material and place in a container for disposal. Do not place spilled material back in original container.

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Other Information: Spills of this product may require reporting under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as the product contains Trifluralin with a reportable quantity (RQ) of 10 lbs. and Naphthalene with a reportable quantity of 100 lbs. See Section 15 for additional information.

SECTION 7: HANDLING AND STORAGE

Handling: RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS AND WORKERS must refer to the pesticide product label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Avoid contact with eyes skin, and clothing. Wash thoroughly after handling. Avoid breathing mists or spray. Do not swallow. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. Keep away from heat, sparks and flame. Ensure adequate ventilation. Immediately clean up spills that occur during handling. Keep containers closed when not in use.

Storage: Store in secured, cool, dry areas designated specifically for pesticides, away from children, feed and food products and sources of heat. Keep containers closed when not in use. Avoid freezing. See pesticide product label for additional storage information.

Minimum Storage Temperature: 40°F

Other Precautions: Consult Federal, state and local laws and regulations pertaining to storage.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component:	OSHA PEL	ACGIH TLV	NIOSH
Naphthalene (CAS #91-20-3)	50 mg/m3; 10 ppm (TWA)	10 ppm (TWA) 15 ppm skin (STEL); (skin)	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m3 STEL: 15 ppm STEL: 75 mg/m3

NOTE TO END USERS: PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING LISTED IN THIS SECTION IS FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD REFER TO THE PESTICIDE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING.

Respiratory Protection: Where airborne exposure to concentrations greater than the above listed exposure limits is likely or irritation occurs, use a NIOSH approved respirator with cartridges/canisters approved for organic vapors with a particulate pre-filter.

Engineering Controls: Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred.

Protective Gloves: Wear chemical resistant gloves to prevent skin exposure.

Eye Protection: Wear chemical goggles or safety glasses and full-face shield. Contact lenses are not eye protective devices. An emergency eyewash or water supply should be readily accessible to the work area.

Other Protective Clothing or Equipment: Wear long sleeve shirt, long pants and chemical resistant shoes plus socks to prevent skin exposure.

Work/Hygienic Practices: Never eat, drink, nor use tobacco in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	Specific Gravity (H_2O=1):	1.075 *(typical)*
Vapor Pressure (mm Hg):	Not determined	Density (lbs/gallon):	8.97 lbs/gal
Vapor Density (Air=1):	Not determined	Melting Point/Freezing Point:	Not determined
Solubility in Water (wt %):	Not soluble	Boiling Point/Range:	Not determined
Viscosity:	Not determined	pH (aqueous 50/50):	5-7 (5% dilution)
Appearance and odor:	Orange liquid with aromatic odor	Flash Point:	147°F (63.9°C)

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Toxic flammable gases can be released during decomposition.
Chemical Stability: Product is stable at ambient temperature and pressure, under normal storage and handling conditions. Unstable at elevated temperatures. Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid.
Possibility of Hazardous Polymerization: Will not occur
Conditions to Avoid: Avoid open flame, high temperatures and static discharge
Incompatible Materials: Oxidizers
Hazardous Decomposition Products: Decomposition products can include and are not limited to: Carbon oxides, nitrogen oxides, fluorinated compounds and toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Eye Effects:	Causes moderate eye irritation based on animal study (rabbit).
Skin Effects:	LD50 >2,000 mg/kg (rat); Causes moderate skin irritation based on animal study (rabbit). Skin contact may cause an allergic reaction.
Acute Inhalation Effects:	LC50 >5 mg/L (rat) (4 hr.); Inhalation of mist may cause slight irritation of the upper respiratory tract.
Acute Oral Effects:	LD50 = 3,738 mg/kg (male rats); May be harmful if swallowed.
Specific Target Organ Toxicity:	For trifluralin, effects have been reported in animals on the following organs: liver, kidney, blood. For the solvent, effects in animals have been reported on the following organs: lung, gastrointestinal tract, thyroid, urinary tract. Dose levels producing these effects were many times higher than any dose levels expected from exposure to use.
Aspirational Hazard:	Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

CHRONIC TOXICITY

Carcinogenicity: For trifluralin, a low incidence of urinary tract tumors was seen in only 1 of 5 chronic studies with rats. Trifluralin in not anticipated to be a carcinogenic risk to man.

Naphthalene has caused cancer in some laboratory animals, but the relevance to humans is uncertain.

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

Chemical Name	ACGIH	IARC	NTP	OSHA
Naphthalene	A3	2B	Reasonable Anticipated	-

ACGIH: (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC: (International Agency for Research on Cancer)
Group 2B - Possibly Carcinogenic to Humans
NTP: (National Toxicity Program)
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

Mutagenicity:	Animal and in vitro studies were predominately negative.
Teratogenicity:	Trifluralin has been toxic to the fetus in laboratory animals at doses toxic to the mother.
Reproductive Toxicity:	None known

SECTION 12: ECOLOGICAL INFORMATION

Trifluralin

Acute toxicity to fish
Material is very highly toxic to aquatic organisms on an acute basis (LC_{50}/EC_{50} <0.1 mg/L in the most sensitive species).
LC_{50}, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 Hour, 0.088 mg/l
LC_{50}, Lepomis macrochirus (Bluegill sunfish), flow-through test, 96 Hour, 0.089 mg/l

Acute toxicity to aquatic invertebrates
EC_{50}, water flea Daphnia magna, static test, 48 Hour, 0.245 mg/l
EC_{50}, mussel Mytilus edulis, static test, 48 Hour, 0.096 mg/l

Acute toxicity to algae/aquatic plants
ErC_{50}, Pseudokirchneriella subcapitata (green algae), 72 Hour, 0.0532 mg/l
EC_{50}, Lemna gibba, Growth inhibition, 7 d, 0.043 mg/l
EbC_{50} diatom Navicula sp., 5 d, Biomass, 0.015 mg/l

Toxicity to bacteria
EC_{50}, activated sludge, 3 Hour, >100 mg/l

Chronic toxicity to fish
NOEC, Oncorhynchus mykiss (rainbow trout), static test, 48 d, growth, 0.00114 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, growth, 0.0507 mg/l

Toxicity to Above Ground Organisms
Material is practically non-toxic to birds on an acute basis (LD_{50} > 2000 mg/kg).
Material is practically non-toxic to birds on a dietary basis (LC_{50} > 5000 ppm).
Oral LD_{50}, Colinus virginianus (Bobwhite quail), > 2250 mg/kg bodyweight.
Dietary LC_{50}, Colinus virginianus (Bobwhite quail), 5 d, > 5000 mg/kg diet.
Oral LD50, Apis mellifera (bees), > 100 micrograms/bee

Toxicity to soil-dwelling organisms
LC50, Eisenia fetida (earthworms), 14 d, > 1,000 mg/kg

Naphthalene

Acute toxicity to fish
Material is highly toxic to aquatic organisms on an acute basis (LC_{50}/EC_{50} between 0.1 and 1 mg/l in the most sensitive species tested).
LC_{50}, Oncorhynchus mykiss (rainbow trout), 96 Hour, 0.11 mg/l

Acute toxicity to aquatic invertebrates
EC_{50}, Daphnia magna (Water flea), static test, 48 Hour, 1.6 - 24.1 mg/l

Chronic toxicity to fish
NOEC, Other, flow-through, 40 d, mortality, 0.37 mg/l

Balance
No data available

Persistence and degradability

Trifluralin

Biodegradability: Material is expected to biodegrade very slowly in the environment. Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 5%
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent

Chemical Oxygen Demand: 1.37 mg/mg

Stability in Water (1/2-life)
Hydrolysis, half-life, > 1 year, pH 3 – 9, Measured

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Photolysis, half-life, 0.19 – 3.08 Hour, Measured

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 5.347 Hour
Method: Estimated.

Naphthalene

Biodegradability: Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%

Theoretical Oxygen Demand: 3.00 mg/mg

Biological Oxygen Demand (BOD)

Incubation Time	BOD
5 d	27.00%
10 d	71.00%
20 d	71.00%

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 5.9 Hour
Method: Estimated.

Balance

No data available.

Bioaccumulation Potential

Trifluralin

Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).
Partition coefficient: n-octanol/water (log Pow): 5.27
Bioconcentration factor (BCF): 1,060 – 6000 Pimephales promelas (fathead minnow) Estimated.

Naphthalene

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Partition coefficient: n-octanol/water (log Pow): 3.3 Measured
Bioconcentration factor (BCF): 40 – 300 Fish. 28 d Measured

Balance

No data available

Mobility in soil

Naphthalene

Potential for mobility in soil is medium (Koc between 150 and 500).
Partition coefficient (Koc): 240-1300 Measured

Balance

No data available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste: Dispose of in accordance with applicable Federal, state and local laws and regulations.
Container: Triple rinse and recycle the container or dispose of in accordance with Federal, state and local laws and regulations.
See pesticide product label for full instructions on disposal.
RCRA Characteristics: It is the responsibility of the individual disposing of this product to determine the RCRA classification and hazard status of the waste.

SECTION 14: TRANSPORT INFORMATION

DOT: (Ground)	This product is not regulated by the U.S. DOT as a hazardous material for ground shipment in container sizes less than 2.5 gallons. For container sizes greater than or equal to 2.5 gallons and less than 227 gallons: UN3082, Environmentally hazardous substance, liquid, n.o.s. (trifluralin, naphthalene), 9, PG III, RQ (trifluralin) For container sizes greater than or equal to of 227 gallons: UN3082, Environmentally hazardous substance, liquid, n.o.s. (trifluralin, naphthalene), 9, PG III, RQ (trifluralin, naphthalene)
IMDG: (Sea)	Not determined
IATA: (Air)	Not determined
TDG: (Canada)	Not determined

SECTION 15: REGULATORY INFORMATION

TSCA Inventory: This product is exempt from TSCA inventory listing requirements as it is solely for FIFRA regulated use.

SARA Title III Information:

Section 302 - Extremely hazardous substances: None listed

Section 311/312 – Hazard Categories: Immediate (Acute), Delayed (Chronic), Fire (combustible)

Section 313 – The following chemicals are subject to the reporting requirements of Section 313 of Title III, Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372:

Trifluralin (CAS #1582-09-8) 44.5%; Naphthalene (CAS #91-20-3) 4.8 - 4.92%

CERCLA - This product contains the following chemicals which have a reportable quantity (RQ) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):

Trifluralin (CAS #1582-09-8 has an RQ of 10 lbs reached with 2.5 gallons of product; Naphthalene (CAS #91-20-3) has an RQ of 100 lbs reached with 227 gallons of product.

EPA Registration Information: 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:

CAUTION
Harmful if absorbed through skin.
Causes moderate eye irritation.
Avoid contact with eyes, skin or clothing.
Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.
Wash thoroughly with soap and water after handling.
Combustible. Do not use or store near heat or open flame.

EPA Reg. No. 1381-261

California Proposition 65: WARNING: This product contains a chemical (naphthalene) known to the state of California to cause cancer and/or reproductive harm.

U.S. State Worker and Community Right-To-Know (RTK) Information (CT, IL, MA, MN, NH, NJ, PA, RI):

Chemical Name	CAS #	State(s)
Trifluralin	1582-09-8	MA, NJ, PA,
Naphthalene	91-20-3	IL, MN, NJ, PA, RI

SECTION 16: OTHER

Disclaimer: The information presented herein is based on available data from reliable sources and is correct to the best of WinField Solutions' knowledge. WinField Solutions, LLC makes no warranty, express nor implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

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