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DOCUMENT #: F/RPI/QC 7.7.3-02-00	PRODUCT NAME: Trifluralin	RPI ITEM NO: T50020	

SECTION 1 - CHEMICAL IDENTIFICATION

PRODUCT NAME: Trifluralin ([α - α -Trifluor-2, 6, Dinitro-N,N-Dipropyl-p-Toluidin]
 RPI CATALOG #: T50020
 SUPPLIER'S NAME: Research Products International Corp.
 SUPPLIERS ADDRESS: 410 N Business Center Drive Mount Prospect, IL 60056
 EMERGENCY CONTACT: 1-800-424-9300
 OTHER INFORMATION: 847-635-7330

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

H302	Acute toxicity, Oral	Category 4
H317	Skin Sensitisation	Category 1
H331	Acute toxicity, Inhalation	Category 3
H351	Carcinogenicity	Category 2
H400	Hazardous to the aquatic environment, acute hazard	Category 1
H410	Hazardous to the aquatic environment, Long term hazard	Category 1

2.2 GHS Label elements, including Hazard and Precautionary Statement(s) Pictogram



Signal word: **Danger**
Hazard statement(s)

H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H331	Toxicity if Inhaled
H351	Suspected of causing cancer
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects.

Prevention, Response, Storage and Disposal Precautionary Statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash skin thoroughly after handling
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.

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P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P311	Call a POISON CENTER or doctor
P321	Specific treatment (see. on this label).
P330	Rinse mouth.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash before reuse.
P391	Collect spillage.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

CAS Number: 1582-09-8
 EINECS Number: 216-428-8
 Molecular Weight: 335.28 g/mol
 Formula: $C_{13}H_{16}F_3N_3O_4$

SECTION 4 - FIRST-AID MEASURES

4.1 Description of first aid measures

General advice: Consult a doctor and show this safety data sheet.

- If inhaled:** Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.
- In case of skin contact:** Immediately wash skin with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes and wash before reuse. Consult a doctor.
- In case of eye contact:** Flush with copious amounts of water for at least 15 minutes. Consult a doctor.
- If swallowed:** Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

4.3 Indication of immediate medical attention and special treatment needed: Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

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SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

5.2 Special hazards arising from the substance or mixture: Carbon oxides, Nitrogen oxides (NOx), Hydrogen fluoride.

5.3 Precautions for fire-fighters: Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

5.4 Further information: no data available

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust or gas.

6.2 Environmental precautions: Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up: Cover spillage with suitable absorbent material. Using non-spark tools, sweep up material and place in an appropriate container. Decontaminate spill site with 10% caustic solution and ventilate area until after disposal is complete. Hold all material for appropriate disposal as described under section 13 of SDS.

6.4 Reference to other sections: For required PPE see section 8. For disposal see section 13.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling:

Use in a chemical fume hood, with air supplied by an independent system. Avoid inhalation, contact with eyes, skin and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

7.2 Conditions for safe storage, including any incompatibilities: Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use. Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effect.

7.3 Specific end use(s): Use in a laboratory fume hood where possible. Refer to employer's COSHH risk assessment.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters: no data available

8.2 Exposure Controls

- i. **Appropriate engineering controls:** Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.

8.3 Personal protective equipment

- i. **Eye/face protection:** 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).

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- ii. **Skin protection:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166
- iii. **Body Protection:** Wear appropriate protective clothing. Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- iv. **Respiratory Protection:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
- v. **Control of environmental exposure:** Do not let product enter drains

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Solid	Vapor Pressure	No Data Available
Odor	No Data Available	Vapor Density	No Data Available
Odor Threshold	No Data Available	Relative Density	No Data Available
pH	No Data Available	Water Solubility	No Data Available
Melting / Freezing Point	No Data Available	Partition Coefficient	No Data Available
Initial Boiling Point Range	No Data Available	Auto-Ignition Temperature	No Data Available
Flash Point	100 °C	Decomposition Temperature	No Data Available
Evaporation Rate	No Data Available	Viscosity	No Data Available
Flammability (Solid, Gas)	No Data Available	Explosive Properties	No Data Available
Upper / Lower Flammability Or Explosive Limits	No Data Available	Oxidizing Properties	No Data Available

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable under recommended transport or storage conditions.

Conditions to Avoid: No Data Available

Incompatible Materials: Strong oxidizing agents

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity

LD50 Oral	LD50 Dermal	LC50 Intraperitoneal
1,930 mg/kg (Rat)	> 5,000 mg/kg (Rat)	2,800 mg/m ³ - 1 h (Rat)
1310 mg/kg (Rat)	2 mL/kg (Rabbit)	Not Listed
Not Listed	Not Listed	750 mg/kg (Mouse)

Carcinogenicity

Carcinogenicity - Mouse – Oral

Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. Liver: Tumors.

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Carcinogenicity - Mouse - Subcutaneous

Tumorigenic: Equivocal Tumorigenic agent by RTECS criteria. Blood: Lymphomas including Hodgkin's disease.
Tumorigenic: Tumors at site or application.

Carcinogenicity - Mouse – Intraperitoneal

Tumorigenic: Equivocal Tumorigenic agent by RTECS criteria. Blood: Lymphomas including Hodgkin's disease.
Tumorigenic: Tumors at site or application.
Limited evidence of a carcinogenic effect.

SECTION 12 - ECOLOGICAL INFORMATION

Eco Toxicity Non-Ionic Surfactants

Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates	Toxicity to algae
mortality LOEC - Cyprinodon variegatus (sheepshead minnow) - 0.084 mg/l - 10 d LC50 - Cyprinus carpio (Carp) - 0.66 mg/l - 96 h	LC50 - Daphnia magna (Water flea) - 0.193 mg/l - 48 h	Growth inhibition LOEC - Pseudokirchneriella subcapitata - 0.3 mg/l - 96 h

Bioaccumulative potential

Bioaccumulation: Pimephales promelas (fathead minnow) - 425 d - 1.9 µg/l
Bioconcentration factor (BCF): 1,333

Persistence and degradability/ Results of PBT and vPvB assessment / Mobility in soil: No data available

Other adverse effects: No data available

Chronic Toxicity: There are no known carcinogenic chemicals in this product

SECTION 13 - DISPOSAL CONSIDERATIONS

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Dispose of container and unused contents in accordance with federal, state and local requirements.

SECTION 14 - TRANSPORT INFORMATION

	UN#	Proper Shipping Name	Hazard Class	Packaging Group
DOT	2811	TOXIC SOLID, ORGANIC, N.O.S. (Trifluralin)	6.1	III
TDG	2811	TOXIC SOLID, ORGANIC, N.O.S. (Trifluralin)	6.1	III
IATA	2811	TOXIC SOLID, ORGANIC, N.O.S. (Trifluralin)	6.1	III
IMDG/IMO	2811	TOXIC SOLID, ORGANIC, N.O.S. (Trifluralin)	6.1	III

SECTION 15 - REGULATORY INFORMATION

USA FEDERAL REGULATION

SARA 311/312 HAZARDOUS

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Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release Of Pressure Hazard	Reactive Hazard
Yes	Yes	No	No	No

TSCA 12(b)/ OSHA/ CERCLA: Not Applicable

SARA 313: Not Applicable

Clean Water Act/ Clean Air Act: Not Applicable

California Proposition 65: This product does not contain any Proposition 65 chemicals.

HMIS Rating

Health hazard	Chronic Health Hazard	Flammability	Physical Hazard
2	*	0	0

NFPA Rating

Health Hazard	Fire Hazard	Reactivity Hazard
2	0	0

STATE RIGHT TO KNOW

Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Listed	Listed	Listed	-	-

US DEPARTMENT OF TRANSPORTATION

REPORTABLE QUANTITY (RQ)	DOT MARINE POLLUTANT	DOT SEVER MARINE POLLUTANT
No	No	No

U.S. DEPARTMENT OF HOMELAND SECURITY: This product does not contain any DHS chemicals.

Canada: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

This SDS complies with the requirements of Regulation (EC).

SECTION 16 - OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Research Products International Corp. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. This product is sold for laboratory research product is sold for laboratory research and development purposes use only.