



Safety Data Sheet

Version 8.0
Revision Date: 12/05/2021

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **2-Cyano-2-propyl dodecyl trithiocarbonate**
Product abbreviation: **RAFT-18**
Description: **RAFT agent**
Product use: For laboratory research purposes.
Supplier / Manufacturer: Polymer Source, Inc.
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2. HAZARDS IDENTIFICATION

Emergency overview:	WHMIS classification:	Acute toxicity – Oral (Category 4) Acute toxicity – Dermal (Category 4) Acute toxicity – Inhalation (Category 4) Skin Corrosion/Irritation (Category 2) Eye Damage/Irritation (Category 2A)
	GHS classification:	Acute toxicity, Oral (Category 4), H302
Signal word	Warning!	
Hazard statement(s):	Harmful if swallowed, in contact with skin or if inhaled. Causes skin irritation. Causes serious eye irritation.	
Precautionary statement(s)		
[Prevention]	Avoid breathing mist, vapors or spray. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wash hands and face thoroughly after handling. Wear protective gloves, protective clothing, eye protection.	
[Response]	If swallowed: Call a poison center or doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of soap and water. Call a poison center or doctor if you feel unwell. Take off contaminated clothing and wash it before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell. 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.	
[Disposal]	Dispose of contents and container in accordance with local, regional, national regulations (e.g. US: 40 CFR Part 261, EU:91/156/EEC, JP: Waste Disposal and Cleaning Act, etc.).	
Hazards not otherwise classified: [HNOX] None		

3. COMPOSITION / INFORMATION ON INGREDIENTS

Formula:	2-Cyano-2-propyl Dodecyl Trithiocarbonate:	C ₁₇ H ₃₁ NS ₃
Molecular weight:	345.62	
Concentration:	> 96%	
CAS registry number:	870196-83-1	

4. FIRST AID MEASURES

If inhaled:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
In case of skin contact:	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention.
In case of eye contact:	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 swallowed:	Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:	Dry chemical, foam, carbon dioxide.
Unsuitable extinguishing media	Water (It may scatter and spread fire.)
Specific hazards arising from the chemical:	Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.
Hazardous combustion products:	These products include: Carbon oxides Nitrogen oxides Sulfur oxides
Other specific hazards:	Closed containers may explode from heat of a fire.
Advice for firefighters:	Wear self-contained breathing apparatus if possible.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.
Environmental precautions:	Prevent product from entering drains.
Methods and materials for containment and cleaning up:	Absorb spilled material in a suitable absorbent (e.g., rag, dry sand, earth, saw-dust). In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

7. HANDLING AND STORAGE

Precautions for safe handling:	Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapour or mist. Wash hands and face thoroughly after handling. Use a ventilation, local exhaust if vapour or aerosol will be generated. Avoid contact with skin, eyes and clothing.
Conditions for safe storage, including any incompatibilities Storage conditions:	Keep container tightly closed. Store in a refrigerator. Store under inert gas. Protect from moisture. Store locked up. Store away from incompatible materials such as oxidizing agents. Heat-sensitive Light-sensitive Moisture-sensitive
Packaging material:	Comply with laws.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Appropriate engineering controls:	Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.
Personal protective equipment	
Respiratory protection:	Half or full facepiece respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.
Hand protection:	Impervious gloves.
Eye protection:	Safety goggles. A face-shield, if the situation requires.
Skin and body protection:	Impervious protective clothing. Protective boots, if the situation requires.

9. PHYSICAL AND CHEMICAL PROPERTIES

Basic:	Appearance form:	liquid (20 °C)
	Odour:	no data available
	Odour Threshold	no data available
	pH:	no data available
	Melting point / Freezing point:	no data available
	Boling point:	no data available
	Flash point:	> 110 °C (> 230 °F) - closed cup
	Evaporation rate:	no data available
	Flammability (solid, gas):	no data available
	Lower explosion limit:	no data available
	Upper explosion limit:	no data available
	Vapour pressure:	no data available
	Vapour density:	11.92 - (Air = 1.0)
	Relative density:	0.991 g/cm3 at 25 °C (77 °F)

Water solubility:	no data available
Partition coefficient: n-octanol/water:	no data available
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
Viscosity:	no data available
Explosive properties	no data available
Oxidizing properties	No data available

10. STABILITY AND REACTIVITY

Reactivity	no data available
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	no data available
Conditions to avoid:	no data available
Materials to avoid:	Strong oxidizing agents.
Hazardous decomposition products:	Other decomposition products - No data available. Hazardous decomposition products formed under fire conditions - Carbon oxides, Nitrogen oxides (NO _x), Sulphur oxides. In the event of fire: see section 5.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	Oral LD50:	no data available
	Inhalation LC50:	no data available
	Dermal LD50:	no data available
	Other information on acute toxicity:	no data available
Skin corrosion/irritation:	no data available	
Serious eye damage/eye irritation:	no data available	
Respiratory or skin sensitization:	no data available	
Germ cell mutagenicity:	no data available	
Carcinogenicity:	IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity:	no data available	
Teratogenicity:	no data available	
Specific target organ toxicity:	Single exposure (Globally Harmonized System):	no data available
	Repeated exposure (Globally Harmonized System):	no data available
Aspiration hazard:	no data available	
Additional information:	RTECS:	no data available

12. ECOLOGICAL INFORMATION

Toxicity:	no data available
Persistence and degradability:	no data available
Bioaccumulative potential:	no data available
Mobility in soil:	no data available
PBT and vPvB assessment:	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
Other adverse effects:	no data available

13. DISPOSAL CONSIDERATIONS

Product:	Recycle to process if possible. It is the generator's responsibility to comply with Federal, State and Local rules and regulations. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. This section is intended to provide assistance but does not replace these laws, nor does compliance in accordance with this section ensure regulatory compliance according to the law. US EPA guidelines for Identification and Listing of Hazardous Waste are listed in 40 CFR Parts 261. The product should not be allowed to enter the environment, drains, water ways, or the soil.
Contaminated packaging:	Dispose of as unused product. Do not re-use empty packaging.
Other considerations:	Observe all federal, state and local regulations when disposing of the substance.

14. TRANSPORT INFORMATION

DOT (US):	Not dangerous goods.
IMDG:	Not dangerous goods.
IATA:	Not dangerous goods.

15. REGULATORY INFORMATION

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

Other information

NFPA Rating

Health: 2

Flammability: 0

Instability: 0

HMIS Classification

Health: 2

Flammability: 0

Physical: 0

16. OTHER INFORMATION

Date of the latest revision: 12 May 2021

Further 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. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Polymer Source, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See www.polymersource.ca for additional terms and conditions of sale.