

Safety Data Sheet

TMQ

1. IDENTIFICATION OF SUBSTANCE / COMPANY INFORMATION

Chemical Name	2,2,4-Trimethyl-1,2-Dihydroquinoline polymer
Synonyms	Antioxidant TMQ, RD, Polymerized 1,2-Dihydro-2,2,4 trimethylquinoline
CAS #	26780-96-1
Formula	C ₁₂ H ₁₅ N
Chemical Family	Antioxidant
Supplier	SunBoss Chemicals Corp.
Address	8-110 West Beaver Creek Road Richmond Hill, ON L4B 1J9
Telephone	905-707-3433
Fax	905-707-7393

Emergency Information

After normal hours call Chemtrec at 1-800-424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS No.</u>	<u>Weight</u>	<u>EC No.</u>
2,2,4-Trimethyl-1,2-Dihydroquinoline polymer	26780-96-1	>97	500-051-3
	<u>Symbol(s)</u>	<u>Risk Phrase(s)</u>	
	None	R53	

3. HEALTH HAZARDS INFORMATION

EMERGENCY OVERVIEW

Signal word: WARNING!

May cause long-term adverse effects in the aquatic environment.

Skin, eye and respiratory tract irritant.

Potential Health Effects

Inhalation

May cause mild respiratory irritation. May irritate mouth, nose, and throat. Signs/symptoms can include soreness of the nose and throat, coughing and sneezing.

Ingestion

Illness may occur after a single swallowing.

Skin contact

Causes mild skin irritation. Signs/symptoms can include redness, swelling, itching, and dryness. May cause an allergic skin reaction. Causes drying of the skin.

Eye Contact Causes mild eye irritation. Signs/symptoms can include redness, swelling, pain and tearing.

4. EMERGENCY FIRST AID PROCEDURES

Inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

Ingestion Seek immediate medical advice. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Skin Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

Eyes Immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

Note to Physician Provide symptomatic/supportive care as necessary. Treatment based on sound judgment of physician and individual reactions of patient. Observe for signs of respiratory distress.

5. FIRE AND EXPLOSION HAZARD MEASURES

Flammability Not determined

Flash Point 150°C / 302°F

Flash Point Method Cleveland Open Cup

DOT Category Not regulated

Extinguishing Media Water fog, carbon dioxide, foam, dry chemical.

Auto Ignition Temperature Not determined

Flammable Limits 20-200 mg/l(dust cloud)

Special Fire Fighting Procedures Fight fire from a safe distance and from a protected location. Use water spray to cool fire exposed surfaces. Decomposition in fire may produce toxic gases. Do not allow runoff to enter waterways.

Special Protective Equipment Fire fighters should wear full protective clothing, including self-contained breathing equipment.

Unusual Fire and Explosion Hazards Toxic emissions may result if product is involved in a fire.

6. ACCIDENTAL RELEASE MEASURES

Procedures Wear protective equipment specified. Avoid the generation of dust. Sweep, vacuum, or shovel and place into closable container for disposal.

Clean up Methods Isolate area and remove sources of friction, impact, heat, low level electrical current, and RF energy. Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. Scoop up and remove solids. Do NOT spread spilled product with water.

7. HANDLING AND STORAGE

Handling	Good hygienic practices should be observed. Work clothes should be washed separately at the end of each work day. Disposable clothing should be discarded with material. Avoid generating or breathing dust. Avoid contact with eyes, skin and clothing. Close containers of unused product. Wash hands before eating, drinking, and chewing gum, using tobacco or using the toilet. Do not reuse this container.
Storage	Store closed containers in a cool, dry, well-ventilated area. Store away from strong oxidizing materials. Avoid exposure to direct sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

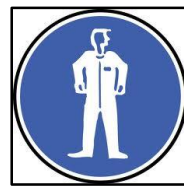
Engineering Controls	Avoid dust generation. Ensure good ventilation and local exhaustion of the working area as necessary to control any air contaminants to within their exposure limits. Adequate ventilation should be provided to keep dust concentrations below acceptable exposure limits. Discharge from the ventilation system should comply with the applicable air pollutions control regulations. Eliminate ignition sources.
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Exposure Limit

2,2,4-Trimethyl-1,2-Dihydroquinoline polymer

WEL - TWA – 4mg/m³ (respirable dust)

OES – TWA - 10mg/m³ (total inhalable dust)



Respiratory	Appropriate respiratory protection shall be worn when applied engineering controls are not adequate to protect against inhalation exposure. Use in a well-ventilated area.
Eyes	Wear safety glasses or goggles to protect against exposure. Wear eye protection appropriate to handling activities.
Skin	Normal work coveralls. Launder contaminated clothing before reuse.
Gloves	Use gloves as a standard industrial handling procedure. All cleanable impervious glove types are acceptable.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Amber to brown granules
Odour	Aromatic
Specific Gravity	1.1 @ 20°C
Density	1.08 g/cm ³
Bulk Density	600-630 kg/m ³

Solubility in water	INSOLUBLE
pH	Not applicable
Other Solubility	Soluble in benzene, chloroform, carbon disulfide and acetone
Boiling point	>315°C
Melting Point	80-100°C (Softening Point)
Molecular Weight	173.25
Molecular Formula	C ₁₂ H ₁₅ N

10. STABILITY AND REACTIVITY

Chemical Stability	Stable when stored at room temperature in closed, original container. Stable under normal conditions of handling, use and transportation.
Conditions to avoid	Avoid contact with heat, sparks, open flame, and static discharge. Avoid contact with strong oxidants such as liquid chlorine and concentrated oxygen. Heat.
Incompatibility	Contact with oxidizing agents. Nitric acid.
Hazardous Polymerization	Will not occur
Hazardous Decomposition Products	Carbon monoxide. Oxides of nitrogen.
Additional Guidelines	Thermal decomposition begins at about 160°C.

11. TOXICOLOGICAL INFORMATION

Acute oral LD 50 (mg/kg)	2250 mg/kg (Rat)
Acute Dermal LD 50 (mg/kg)	>5010 mg/kg (Rabbit)
Acute Inhalation LC50 (mg/l)	Not determined
Principle routes of Exposure	Eyes. Inhalation. Dermal - skin.
Ingestion	Illness may occur after a single swallowing of relatively large quantities of this material.
Skin contact	May cause mild skin irritation. May cause a rash and itching of the skin. May cause an allergic skin reaction. Causes drying of the skin.
Inhalation	May cause mild respiratory irritation.
Eye Contact	May cause mild eye irritation.
Aggravated Conditions	Pulmonary disorders. Dermal ailments.
Carcinogenicity	Negative in standard tests using bacteria and/or yeast cells. Some evidence of tumour formation reported in a long-term feeding study on rats. No evidence of increased tumour formation reported in a long-term

feeding study on mice. This product or one of its ingredients present 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA.

Primary Irritation Effect	Practically non-irritating possible sensitizer.
Genotoxicity	No adverse effects in standard tests using yeast cells. Negative for genetic activity - in vitro tests. Negative for genetic activity - in vivo tests.
Reproductive/Developmental Toxicity	Animal studies have shown some adverse effects - low birth weight of pups, maternal toxicity - on female animals. Fetal toxicity noted only at levels that produced maternal toxicity.

12. ECOLOGICAL INFORMATION

Acute Fish Toxicity	96 Hr LC50 Rainbow Trout = 50.0 mg/l. 96Hr LC50 Bluegill Sunfish = 54.0 mg/l. 96Hr LC50 Fathead Minnow = 64.0 mg/l.
Acute Crustacean Toxicity	48Hr EC50 Daphnia Magna = 5.8 mg/l.
Octonal/Water Coefficient	3.2 log P
Chemical Fate Information	Biodegradability: <10% in river water. 8% based on CO2 evolution. Photo transformation: Extremely rapid. 75% in 3 minutes.
Other Information	Tests indicate this material will not bio-accumulate or persist in the environment.

13. DISPOSAL CONSIDERATIONS

Waste Disposal	This material is not a RCRA hazardous waste. Bury in a licensed landfill or burn in an approved incinerator according to federal, state, and local regulations. Empty containers should be handled in a manner not to cause dusting during collection, transportation and disposal.
Contaminated Packaging	If empty container retains product residues, all label precautions must be observed. Store away from ignition sources. Transport with all closures in place. Return for reuse or dispose according to national or local regulations. Dispose of container according to national or local regulations.

14. TRANSPORT INFORMATION

<u>DOT</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated
<u>TDG (Canada)</u>	Not regulated

15. REGULATORY INFORMATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO THE EEC DANGEROUS SUBSTANCE DIRECTIVE AND THE DANGEROUS PREPARATION DIRECTIVE.

CLASSIFIED ACCORDING TO DIRECTIVE 199/45/EC

Risk Phrases: R53 – May cause long-term adverse effects in the aquatic environment.

Safety Phrases: S61 – Avoid release to the environment. Refer to Special Instructions/Safety Data Sheet.

FDA Status 21 CFR Not regulated for use in food contact applications under FDA 21 CFR.

TSCA Listed

Canadian DSL Listed

EINECS/ELINCS Listed

US Regulations

SARA Section 302 None Found
SARA 311/312 Hazard Categories Delayed Fire
SARA 313 Chemical Not determined
RCRA Status Not a RCRA waste

Canadian Regulations

WHMIS Hazard Class



D2B TOXIC MATERIALS/Material Causing Other Toxic Effects

NPRI Not Listed

16. HAZARD RATING SYSTEM

NFPA Rating (Scale 0-4)

- 0 - Minimal Hazard
- 1 - Slight Hazard
- 2 - Moderate Hazard
- 3 - Serious Hazard
- 4 - Severe Hazard

HEALTH	1
FIRE	1
REACTIVITY	0

HMIS Classification (Scale 0-4)

- 0 - Minimal Hazard
- 1 - Slight Hazard
- 2 - Moderate Hazard
- 3 - Serious Hazard
- 4 - Severe Hazard

HEALTH	1
FIRE	1
REACTIVITY	0

17. OTHER INFORMATION

Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. SunBoss Chemicals Corp. extends no warranty and assumes no responsibility for the accuracy or sufficiency of the content and expressly disclaims all liability for reliance thereon. This safety data sheet provides guidelines for the safe handling of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. It is the responsibility of the user to comply with all Federal, State and local laws and regulations. Individuals

exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.

Abbreviations and Acronyms

ACGIH: American Conference of Governmental Industrial Hygienists Inc.
CAS: Chemical Abstracts Service (Division of American Chemical Society)
DOT: Department of Transportation (USA)
EINECS: European Inventory of Existing Commercial Chemical Substances
HMIS: Hazardous Materials Identification System (USA)
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IMDG: International Marine Code for Dangerous Goods
LD50: Lethal Dose Medium
LC50: Lethal Concentration Medium
EC50: Effective Concentration Medium
NIOSH: National Institute for Occupational Safety and Health
NFPA: National Fire Protection Association (USA)
NPRI: National Pollutant Release Inventory (Canada)
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration (USA)
PEL: Permissible Exposure Limits
TDG: Transportation of Dangerous Goods (Canada)
TLV: Threshold Limit Value
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information Systems (Canada)

18. REVISION DATE

Revision number: 5

Date of Issue: September 9, 2014

Changes: Number and format of headings changed; Updates to Sections 1: Identification of Substance - EC information added; 2: Health Hazards Information; 8: Specific Personal Protection Equipment - pictograms added; 14: Transport information - pictograms added; 15: Regulatory information - EC information added; 16: Hazard Rating System - table added; 17: Abbreviations and Acronyms added