



MATERIAL SAFETY DATA SHEET

RD (TMQ) POLYMERIZED 2,2,4-TRIMETHYL-1,1,2-DIHYDROQUINOLINE

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier:

Identification on the label/Trade name: Antioxidant TMQ or RD
Additional identification: 2,2,4-Trimethyl-1,2-dihydroquinoline polymerized
Identification of the product: CAS# 26780-96-1; EC# 500-051-3
Index Number: Not available
REACH registration No.: Not available

1.2 Relevant identified uses of the substance and uses advised against:

1.2.1 Identified uses:

Not available.

1.2.2 Uses advised against:

Not available.

SECTION 2 HAZARDS IDENTIFICATION

2.1 Classification of the substance:

2.1.1 Classification:

The substance is classified as following according to 67/548/EEC and REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008

Hazard classes/Hazard categories	Hazard codes
Aquatic Chronic 3	H412

For full text of H- phrases: see section 2.2.

2.2 label elements:

Hazard Pictograms: No hazard pictogram is used.
Signal Word(S): No signal word is used.
Hazard Statement: H412: Harmful to aquatic life with long lasting effects
Precautionary statement: P273: Avoid release to the environment.
P501: Dispose of contents/container in accordance with local regulation.

2.3 Other hazards:

Not available.



SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

**Substance/Mixture: Substance
Ingredient(s):**

Chemical Name	Registration No.	CAS No.	EC No.	Concentration
2.2.4-Trimethyl-1.2-dihydroquinoline polymerized monosulphide	N/A	26780-96-1	500-051-3	>95%

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures:

In all cases of doubt, or when symptoms persist, seek medical attention.

4.1.1 In case of inhalation:

Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

4.1.2 In case of skin contact:

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

4.1.3 In case of eyes contact:

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

4.1.4 In case of ingestion:

Drink plenty of warm water, induce vomiting. Gastric lavage, diarrhea. Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed:

The product is not classified as harmful to human health effect.

4.3 Indication of any immediate medical attention and special treatment needed:

If skin irritation or rash occurs, get medical advice/attention.



5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media: Water fog, foam, dry powder, carbon dioxide, sand.

Unsuitable extinguishing media: Not available.

5.2 Special hazards arising from the substance or mixture

Decomposition products may include the following materials: carbon oxides, nitrogen oxides.

5.3 Advice for firefighters: Wear self contained breathing apparatus for fire fighting if necessary.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel: Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Put on appropriate personal protective equipment.

6.1.2 For emergency responders: Wear an appropriate NIOSH/MSHA approved respirator if dust is generated.

6.2 Environmental Precautions: Do not let product enter drains.

6.3 Methods for Containment and Cleaning up:

Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container.

6.4 Reference to other sections: See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling:

7.1.1 Protective measures:

Put on appropriate personal protective equipment. 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. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.



7.1.2 Advice on general occupational hygiene:

Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities:

Store in accordance with local regulations. Store in a dry place. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. Take precautionary measures against electrostatic discharges.

7.3 Specific end use(s): Not applicable.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

8.1.1 Occupational exposure limits: 1,2-Dihydro-2,2,4-trimethylquinoline, oligomers (CAS#26780-96-1): The concentration threshold: Long-term exposure limit (TWA): 1 Mg/m³ (Lithuania)

8.1.2 Additional exposure limits under the conditions of use:

Not available.

8.1.3 DNEL/DMEL and PNEC-Values:

Workers - Hazard via inhalation route-Systemic effects-Long term exposure-DNEL (Derived No Effect Level): 7 mg/m³

Workers - Hazard via dermal route-Systemic effects-Long term exposure-DNEL (Derived No Effect Level): 1 mg/kg bw/day

General Population - Hazard via inhalation route-Systemic effects-Long term exposure-DNEL

(Derived No Effect Level): 1.8 mg/m³

General Population - Hazard via dermal route-Systemic effects-Long term exposure-DNEL

(Derived No Effect Level): 0.6 mg/kg bw/day

General Population - Hazard via oral route -Systemic effects-Long term exposure-DNEL

(Derived No Effect Level): 0.6 mg/kg bw/day

PNEC aqua (freshwater): 0.056 mg/L

PNEC aqua (marine water): 0.006 mg/L

PNEC STP: 100 mg/L

PNEC sediment (freshwater): 21 mg/kg sediment dw

PNEC sediment (marine water): 2.1 mg/kg sediment dw

PNEC soil: 4.2 mg/kg soil dw

PNEC oral: 8 mg/kg food

8.2 Exposure controls:

8.2.1 Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Provide appropriate exhaust ventilation. Wash hands during breaks and at the end of the work. Avoid contact with the eyes and skin.



Provide safety shower and cleaning eyes equipments.

8.2.2 Individual protection measures, such as personal protective equipment:

Eye/face protection:	Wear chemical safety glasses.
Hand protection:	Wear rubber gloves.
Body protection:	Wear protective overalls.
Respiratory protection:	Dust concentration in the air exceeds the standard, wear self-absorption filter dust masks. Emergency rescue or evacuation, wear an air respirator.
Thermal hazards:	Wear suitable protective clothing to prevent heat.

8.2.3 Environmental exposure controls: Avoid discharge into the environment. According to local regulations, Federal and official regulations.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Flakes or granules
Colour:	Amber to brown
Odour:	Not available
Odour threshold:	Not available
pH:	Neutral
Melting point/range (°C):	48 °C
Boiling point/range (°C) :	Decomposition
Flash point (°C) :	180 °C
Evaporation rate:	Not available
Flammability limit - lower (%):	Not available
Flammability (solid, gas):	Not readily combustible solid
Ignition temperature (°C):	Not available
Upper/lower flammability/explosive limits:	Lower explosion limit: 20-200 mg / 1000 ml (dust)
Vapour pressure (20°C):	< 0 Pa
Vapour density:	Not applicable
Relative Density:	1.04
Bulk density (kg/m³):	Not available
Water solubility (g/l) :	Insoluble in water
n-Octanol/Water (log Po/w):	>= 1.2 - <= 7.7
Auto-ignition temperature:	Not available
Decomposition temperature:	ca. 280 °C
Viscosity, dynamic (mPa s):	Not available
Explosive properties:	Not available
Oxidising properties:	Not available
Molecular Formula:	(C ₁₂ H ₁₅ N) _n n=2-4
Molecular Weight:	(173.26) _n



9.2. Other information:

Fat solubility(solvent- oil to be specified) etc:

Soluble in benzene, chloroform, carbon disulfide, acetone, ethanol and so on

Surface tension: Not available

Dissociation constant in water(pKa): ca. 4.95

Oxidation-reduction Potential: Not available

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity:

The substance is stable under normal storage and handling conditions.

10.2 Chemical stability: Stable at room temperature in closed containers under normal storage and handling conditions.

10.3 Possibility of hazardous reactions: No dangerous reactions known.

10.4 Conditions to avoid: Incompatible materials. Fire, high heat.

10.5 Incompatible materials: Strong oxidizing agents. TM

10.6 Hazardous decomposition products: Carbon oxides, nitrogen oxides.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

Acute toxicity:

LD50(Oral, Rat):	3190 mg/kg bw
LD50(Dermal, Rabbit):	> 5100 mg/kg bw
LC50(Inhalation, Rat):	Not available

Skin corrosion/Irritation: Not classified

Serious eye damage/irritation: Not classified

Respiratory or skin sensitization: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

STOT- single exposure: Not classified

STOT-repeated exposure: Not classified

Aspiration hazard: Not classified



SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity:

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	N/A	96h	Fish	OECD 203	N/A	N/A
LC50	N/A	48h	Daphnia	OECD 202	N/A	N/A
EC50	N/A	96h	Algae	OECD 201	N/A	N/A

12.2 Persistence and degradability: Not readily biodegradable.

12.3 Bioaccumulative potential: BCF: 108 -1300, TMQ can be considered as bioaccumulative.

12.4 Mobility in soil: log Koc > 4.09

12.5 Results of PBT&vPvB assessment: The substance is not PBT / vPvB.

12.6 Other adverse effects: Harmful to aquatic life with long lasting effects.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods: The material should be disposed of by incineration in a chemical incinerator in compliance with national and regional requirements.

SECTION 14 TRANSPORT INFORMATION

	Land transport(ADR /RID)	Sea transport (IMDG)	Air transport (ICAO /IATA)
UN-Number	Not regulated	Not regulated	Not regulated
UN Proper shipping name	Not regulated	Not regulated	Not regulated
Transport hazard Class	Not regulated	Not regulated	Not regulated
Packaging group	Not regulated	Not regulated	Not regulated
Environmental hazards	No	No	No
Special precautions for user	See section 2.2	See section 2.2	See section 2.2
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	IBC08	IBC08	IBC08



SECTION 15 REGULATION INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Relevant information regarding authorization: Not applicable.

Relevant information regarding restriction: Not applicable.

Other EU regulations: Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.

Other National regulations: Not applicable

Chemical Safety Assessment has been carried out? YES NO

16. OTHER INFORMATION

16.2 Training instructions:

Not applicable.

16.3 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

16.4 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.