

COPPERHEAD CHEMICAL COMPANY[®]

120 RIVER ROAD • TAMAQUA, PA 18252
TEL: (570) 386-6123 • FAX: (570) 386-6158

Product Information Bulletin for:

TRIMETHYLOLETHANE TRINITRATE (METRIOL TRINITRATE)

Trimethylolethane Trinitrate (TMETN), also called Metriol Trinitrate (MTN), is a nitrate ester used in propellants and explosives. Stabilizers, such as ethyl centralite and 2NDPA, are commonly used.

Physical Properties

Physical State	Oily liquid	Detonation Velocity	7050 m/s
Color	Colorless	Heat of Explosion	1122 cal/g
Chemical Formula	$\text{CH}_3\text{C}(\text{CH}_2\text{ONO}_2)_3$	Heat of Combustion	2642 cal/g
Molecular Weight	255.15	Viscosity @ 20°C	156 cP
Specific Gravity @ 20°C	1.47	Soluble In	Acetone, ethyl ether, methanol, styrene, toluene, xylene
Freezing Point	-3°C	Solubility in Water @ 25°C	<0.015g/100g H ₂ O
Oxygen Balance as CO ₂	-34.5%		

Sensitivity and Stability

Impact	47 cm (2 kg), 20" (PA apparatus)
Friction	Explodes, steel or fiber shoe
Explosion Temperature (5 Sec.)	235°C
Decomposition Temperature	182°C

Typical Specifications

Purity	98% minimum
Acidity/Alkalinity	0.002% maximum
Moisture	0.20% maximum
KI Stability (82.2°C)	10 minutes minimum

Please contact us regarding special requirements.

Shipping Information

Designation	Composition	DOT Classification	Standard Packages
RXL 624	TMETN (Stabilized)	Substances, Explosive, n.o.s., Class 1.1D, UN0475, PGII	5 gallon inner packaging with a 1A2 outer packaging
RXL 624a	60/31/3 TMETN / Toluene / Stabilizer	Substances, Explosive, n.o.s., Class 1.3C, UN0477, PGII	30 gallon inner packaging with a 1A2 outer packaging Palletized drums or desiccators authorized under DOT-SP2709

If you are looking for a responsive, reliable, and cost effective manufacturer, contact us via telephone at (570) 386-6123 or via e-mail at sales@copperheadchemical.com. For additional information and handling instructions, refer to the Safety Data Sheet.

Rev. Jan 2019

FOR YOUR PROTECTION:

The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning uses or applications are only the opinion of Copperhead Chemical Company Inc. and users should make their own tests to determine the suitability of these products for their own particular purposes. However, because of numerous factors affecting results, Copperhead makes no warranty of any kind, express or implied, including those of merchantability and fitness for particular purpose, other than the material conforms to its applicable current standard specifications. Statements herein, therefore, should not be construed as representations or warranties. The responsibility of Copperhead for claims arising out of breach of warranty, negligence, strict liability, or otherwise is limited to the purchase price of the material. Copperhead shall, in no event, be liable for special, incidental, or consequential damages, including loss of profits. Statements concerning the use of the products or formulations described herein are not to be construed as recommending the infringement of any patent and seller assumes no liability for infringement arising out of any such use. Standard specifications, although current at the time of publication, are subject to change without notice.