

# COPPERHEAD CHEMICAL COMPANY<sup>®</sup>

120 RIVER ROAD • TAMAQUA, PA 18252  
TEL: (570) 386-6123 • WWW.COPPERHEADCHEMICAL.COM

Product Information Bulletin for:

## NITROGLYCERIN (GLYCERYL TRINITRATE)

Nitroglycerin (NG) is a nitrate ester used in propellants and other applications. NG is stabilized and desensitized to meet DOT shipping requirements. Common stabilizers are ethyl centralite and 2NDPA. Typical desensitizers include acetone, ethyl acetate, triacetin, diethylene glycol, and methylene chloride.

### Physical Properties

Physical State	Oily liquid	Detonation Velocity	7600 m/s
Color	Colorless	Heat of Explosion	1600 cal/g
Chemical Formula	C <sub>3</sub> H <sub>5</sub> N <sub>3</sub> O <sub>9</sub>	Heat of Combustion	1616 cal/g
Molecular Weight	227.09	Viscosity @ 20°C	36 cP
Specific Gravity @ 25°C	1.591	Vapor Pressure @ 20°C	0.00033 mm Hg
Freezing Point	13.2°C	Soluble In	Most organic solvents
Oxygen Balance as CO <sub>2</sub>	+3.5%	Solubility in Water @ 20°C	0.18g/100g H <sub>2</sub> O

### Sensitivity and Stability

Impact	8 to 10 cm (2 kg weight)
Friction	100% steel shoe
Explosion Temperature (5 Sec.)	222°C
Decomposition Temperature	145°C

### Typical Specifications

Nitrogen	18.4% minimum
Moisture	0.5% maximum
Acidity/Alkalinity	0.002% maximum
KI Stability (82.2°C)	10 minutes minimum
DiNG Content	Meets customer requirements

### Shipping Information

Designation	Composition	DOT Classification	Approved Packaging
RXL 677	50/50 NG / Ethyl Acetate	UN0475, Substances, Explosive, N.O.S., 1.1D	<ul style="list-style-type: none"><li>• 5-gallon or 30-gallon inner packaging with a 1A2 outer packaging.</li><li>• 30-gallon 1H1 inner packaging with a 1H2 outer packaging.</li><li>• Packaging as described in the USDOT Special Permit Authorization DOT-SP 2709.</li></ul>
RXL 688	75/25 NG / Triacetin		
RXL 689	70/30 NG / Methylene Chloride		
X-D-35	50/50 NG / Methylene Chloride		
X-E-3	75/25 NG / Diethylene Glycol		
X-E-5	60/40 NG / Acetone		

### Contact Us:

Phone: (570) 386-6123    Web: [www.copperheadchemical.com](http://www.copperheadchemical.com)    Contact us regarding special requirements.

Rev. Sept 2023

#### 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.