



ONYX ADVISORY

PRODUCT SPECIFICATION SHEET

ONYX-SPEC-TNT / REV 1 / OCTOBER 2026

TNT (2,4,6-Trinitrotoluene)

$C_7H_5N_3O_6$, CAS 118-96-7. Reference military high explosive, used as a melt-cast fill and in mixed compositions with RDX. Sourced to the buyer's specification, or to a recognised standard such as MIL-DTL-248 where the producer certifies to it.

CHEMICAL IDENTITY

Other names	Trinitrotoluene; tolite; trotyl
Formula / molar mass	$C_7H_5N_3O_6$ / 227.13 g/mol
CAS / EC number	118-96-7 / 204-289-6
UN number	UN 0209 or UN 1356, by form
Appearance	Pale yellow flakes, granules or cast solid
Density	1.65 g/cm ³
Melting point	80.35 °C

FORMS

Flakes	Melt-cast feed. Average thickness $\leq$ 0.635 mm; no flake thicker than 1.016 mm, where the producer certifies to that limit
Cast charges	To the buyer's drawing. A typical booster is 400 g, 90–120 mm diameter, 30–40 mm thick, density about 1.35–1.61 g/cm ³
Types	Type I and Type II in MIL-DTL-248 differ mainly by solidification point and crystal form

PACKAGING AND TRANSPORT

Packaging	Fibre drums or boxes with polyethylene liners for flakes. Individual wrapping and outer UN packaging for cast charges
Transport	Dry TNT, or TNT wetted with less than 30% water, is typically UN 0209, Class 1.1D. At least 30% water may be UN 1356, Class 4.1. Road and sea under ADR, RID and IMDG. Air only where IATA and the airline permit it

HAZARD IDENTIFICATION (TYPICAL, DRY)

Signal word	Danger
Hazard statements	H201, H301, H311, H331, H373, H411
Note	Wetted material may carry a different transport class. The SDS for the supplied grade governs.

TYPICAL SPECIFICATION PARAMETERS

Appearance	Cast charges or flakes, light yellow to dark yellow
Solidification point	$\geq$ 80.2 °C
Moisture and volatiles	$\leq$ 0.10%
Acidity, as H ₂ SO ₄	$\leq$ 0.02%
Insoluble matter	$\leq$ 0.05% in acetone, benzene or toluene
Sodium	$\leq$ 0.001%
Shelf life	20 years or more, where the producer certifies it

Typical military-grade limits. Each supply is certified against the specification agreed with the buyer.

DOCUMENTATION

Certificate of analysis	Per batch, as specified: appearance, colour, solidification point, moisture, acidity, insoluble matter, sodium, flake thickness and, for cast charges, mass and dimensions
Safety data sheet	Accompanies every batch; available to verified buyers before order

COMMERCIAL TERMS

Minimum order	Quoted per requirement
Lead time	Quoted per requirement; governed largely by export authorisation in the producer's country
Incoterms	FOB, CFR or CIF
Payment	Through independent, regulated banks against agreed delivery conditions
Country of origin	Disclosed to verified counterparties

EXPORT CONTROLS

Licensing	Export authorisation in the producer's country; UK trade-control licensing where Onyx arranges supply between third countries
End use	End-user certificate signed by the end user, in the format prescribed by the producer's export authority, before any commitment

This sheet describes typical parameters for information and does not constitute an offer. Supply is subject to contract, export authorisation and end-user verification.