



ONYX ADVISORY

PRODUCT SPECIFICATION SHEET

ONYX-SPEC-C4 / REV 1 / OCTOBER 2026

Composition C-4

A plastic demolition explosive based on RDX. Typical United States military Composition C-4 is about 91% RDX with a plasticiser, binder and process oil. Sourced to the buyer's specification, or to a recognised standard such as MIL-DTL-45010 where the producer certifies to it. Other explosive compositions can be sourced to a stated requirement.

COMPOSITION

Other names	C-4; Composition C-4; PE-4 (British equivalent)
Energetic filler	RDX, CAS 121-82-4, typically 91% by mass
Plasticiser	Diocetyl sebacate or dioctyl adipate, about 5.3%
Binder	Polyisobutylene, about 2.1%
Process oil	About 1.6%
Appearance	Malleable putty; off-white to pale yellow
Density	About 1.45–1.64 g/cm ³
Workable range	–57 °C to +77 °C

FORMS

Blocks and bulk	Rectangular blocks, including M112-type of about 1.25 lb (568 g) where the producer certifies to that form, or bulk plastic
500 g charge	One typical formed charge, not every form of C-4: semi-cylindrical, central groove, 80 mm outer diameter, 20 mm inner, 135 mm height, 500 ± 25 g

PACKAGING AND TRANSPORT

Packaging	Blocks and formed charges in sealed wrappers, then UN-certified outer packaging. Bulk plastic in fibre or steel drums with polyethylene liners
Transport	Typically Class 1.1D. Formed charges and bulk plastic are classified on the form offered. Road and sea under ADR, RID and IMDG. Air only where IATA and the airline permit it

HAZARD IDENTIFICATION (TYPICAL)

Signal word	Danger
Hazard statements	H201. The SDS may also carry the acute-toxicity and organ-damage statements of the RDX filler
Note	The SDS for the supplied grade governs.

TYPICAL SPECIFICATION PARAMETERS

Moisture and volatiles	≤ 0.5%
Plasticity, 25 °C	Needle penetration 4.4–9.5 mm at 1.10 ± 0.05 g/cm ³
Thermal stability	≤ 1.0 cm ³ /g at 100 °C for 40 hours
Work potential	≥ 116% of TNT, pendulum method
Sensitivity, Cast	≤ 52%
Detonation velocity	≥ 7,100 m/s at 1.45 g/cm ³
Lead-column compression	≥ 20 mm at 1.45 g/cm ³
Taggant	DMDNB or equivalent where the destination requires it

Producer-certified typical limits. Blocks and bulk follow the buyer's drawing. Each supply is certified against the agreed specification.

DOCUMENTATION

Certificate of analysis	Per batch, as specified: composition, appearance, moisture, density, plasticity, thermal stability, charge geometry and the agreed acceptance limits
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
Buyers	Qualified government buyers, prime contractors and licensed demolition operators
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.