



ONYX ADVISORY

PRODUCT SPECIFICATION SHEET

ONYX-SPEC-AP / REV 1 / OCTOBER 2026

Ammonium Perchlorate (AP)

NH₄ClO₄, CAS 7790-98-9. Principal crystalline oxidizer in composite solid propellants for space launch vehicles, sounding rockets and solid rocket motors. Sourced to the buyer's specification, or to a recognised standard such as MIL-A-192B where the producer certifies to it.

CHEMICAL IDENTITY

Other names	AP; perchloric acid ammonium salt
Formula / molar mass	NH ₄ ClO ₄ / 117.49 g/mol
CAS / EC number	7790-98-9 / 232-235-1
UN number	UN 1442, Class 5.1, PG II
Appearance	White crystalline solid
Density	1.95 g/cm ³
Thermal behaviour	Exothermic decomposition above approx. 200 °C

FRACTIONS (D50)

Coarse	250–400 µm; round, spheroidised crystals; limits on needles, fragments and sub-100 µm content to buyer specification
Medium	50–75 µm; controlled dust content, sub-20 µm limits to buyer specification. Finer grades on request.
Anti-caking	Tricalcium phosphate or fumed silica, typically 0.10–0.15% w/w, alkali-metal and iron impurities controlled where required

PACKAGING AND TRANSPORT

Packaging	Sealed, moisture-proof UN-certified packaging for UN 1442 PG II: steel (1A2), fibre (1G) or plastic drums, double PE liners, desiccant where required
Transport	Road, rail and sea under ADR, RID and IMDG. Air restricted (IATA: 25 kg net per package, cargo aircraft only)

HAZARD IDENTIFICATION (TYPICAL, AS SUPPLIED)

Signal word	Danger
Hazard statements	H271, H319, H373, EUH044
Note	Grades below approx. 15 µm may be classified as explosive (Class 1.1). The SDS for the supplied grade governs.

TYPICAL SPECIFICATION PARAMETERS

Assay (NH ₄ ClO ₄)	≥ 99.5% by mass
Moisture	≤ 0.03%
pH, 10% solution	4.5 – 6.0
Chlorates	≤ 0.01%
Chlorides	≤ 0.03%
Total iron (Fe)	≤ 10 ppm
Sulfated ash	≤ 0.05%

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

DOCUMENTATION

Certificate of analysis	Per batch: assay, moisture at shipment, trace impurities incl. Fe (ppm), differential sieve-analysis curve per fraction
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.