Prohexadione-calcium 92% TC - Technical Data Sheet

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Source SDS	BM-SDS-9174 v4.2, 13 November 2026 [WEB]
Data basis	Supplier SDS + CoA + QC release report + supplier TDS + third-party substance SDS [WEB]
Review status	Technical revision - QC / regulatory sign-off required before commercial issue [WEB]
Product name	Prohexadione-calcium 92% TC [COA]
Document no.	BM-TDS-9174 [WEB]
Version / status	v2.2 - revised 13 November 2026 (supersedes TDS v2.1, 12 November 2026) [WEB]
Issue date	13 November 2026 [WEB]
Format	Technical Data Sheet - 9 sections [WEB]
Language	EN [WEB]

Scope: technical reference consolidating the supplier safety data sheet and batch quality records. Values carry source tags; fields not stated in any source are shown as OPEN items and have NOT been estimated. This is not a registered label, a CoA or a substitute for the SDS.

1 PRODUCT IDENTIFICATION

Trade name	Prohexadione-calcium 92% TC [COA]
Product type / formulation	Technical material (TC) - plant growth regulator active substance [SDS1]
Active substance	Prohexadione calcium (CAS 127277-53-6) [COA]
CAS No. (active substance)	127277-53-6 [COA]
EC No.	603-193-5 [ECHA]
CIPAC No.	567.020 (prohexadione-calcium); 567 (prohexadione) [REG]
US EPA chemical code	112600 (regulatory identifier of the active substance; not a registration number for this company) [EPA]
Molecular formula / molar mass	C10H10CaO5 / 250.26 g/mol [SDS1]
IUPAC name	calcium 3-oxido-5-oxo-4-propionylcyclohex-3-enecarboxylate [TDS1]
Active substance content	>=92.0 % w/w; measured 93.5 % w/w (batch 20260901); 93.5 % (batch 20260403085) [COA]
Product category	Plant growth regulator [WEB]
Identified use	Technical material for formulation into plant-protection products; not for direct application to crops. [SDS1]
Uses advised against	Any use other than the identified use; not for domestic or residential use. [WEB]
Supplier / address	Shanghai Bosman Industrial Co., Limited, No. 1611 North Sichuan Road, Hongkou District, Shanghai 200080, P.R. China [WEB]

2 COMPOSITION / SPECIFICATION (QC RELEASE BASIS)

Parameter	Specification / measured batch	Source
Prohexadione calcium assay	>=92.0 % w/w / measured 93.5 % w/w (batch 20260901); 93.5 % (batch 20260403085) [COA]	
Calcium ion	>=14.7 % w/w / measured 15.2 % (batch 20260403085) [QC]	
Water	<=3.0 % / measured 0.6 % (batch 20260901 / 20260403085) [COA]	
Insoluble matter	<=0.5 % / measured 0.1 % (batch 20260901) [COA]	
Appearance	Off-white to beige / pale yellow powder [COA]	
pH	6.0 - 9.0 (specification); 7.3 (batch 20260901) [COA]	
Other components	Inert manufacturing impurities, balance to 100 %, not classified as hazardous; identities OPEN. [SDS1]	
CLP classification of the substance	Not classified [SDS1]	

Measured values refer to batch 20260901 (supplier CoA) and batch 20260403085 (manufacturer QC release report); they are not guaranteed limits for other batches. A signed, batch-specific CoA is issued with each order.

3 PHYSICAL AND CHEMICAL PROPERTIES

Property	Value	Source
Physical state	Solid, loose powder [COA]	
Colour	Off-white to beige / pale yellow powder [COA]	
Odour	Characteristic (third-party SDS); supplier SDS states 'NA' [GOJI]	
pH	6.0 - 9.0 (specification); 7.3 (batch 20260901) [COA]	

Property	Value	Source
Melting point	>360 deg C (third-party SDS) [CHEM]	
Boiling point	*OPEN - not stated in source* [OPEN]	
Flash point	Not applicable - solid technical material [CHEM]	
Flammability	Combustible solid; deposited dust may form explosive dust clouds (third-party SDS). No combustibility test data supplied. [CHEM]	
Explosive properties	Not classified as explosive; dust-cloud explosion potential to be assessed [CHEM]	
Auto-ignition / decomposition temperature	*OPEN - not stated in source* [OPEN]	
Vapour pressure	1.335 x 10^-5 Pa at 20 deg C (1.335 x 10^-2 mPa; APVMA/PMRA); 1.737 x 10^-5 Pa at 25 deg C. Low volatility. [PPDB]	
Density / bulk density	~1.44 g/mL at 20-22 deg C (relative density / specific gravity; range 1.435-1.46 g/mL from GESTIS 1.435 at 20 deg C, APVMA 1.44 at 22 deg C, PPDB 1.46). Bulk density not separately stated (OPEN). [GESTIS]	
Water solubility	174 mg/L in distilled water at 20 deg C (supplier TDS; test method to be confirmed) [TDS1]	
Partition coefficient (log Kow)	-2.9 at 20 deg C, pH 7 (APVMA, PMRA, GESTIS and PPDB - multiple regulatory sources; supersedes earlier single-source 'to be verified' note). [AG]	
pKa (dissociation constant)	5.15 (weak acid; pKa(2) 7.98 - APVMA/PPDB). [PPDB]	
Viscosity	Not relevant - solid material [CHEM]	
Oxidising properties	None (third-party SDS) [CHEM]	
Particle characteristics	Fine powder (APVMA/PMRA describe the pure active as a fine powder). Numeric particle-size distribution is a manufacturing/lot-dependent parameter and is not a fixed TC specification; no specific distribution supplied for this product (OPEN). [AG]	

4 STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions. [SDS1]
Incompatible materials	Strong oxidising agents [SDS1]
Hazardous decomposition products	Carbon oxides and calcium oxide under fire conditions [SDS1]
Conditions to avoid	Dust formation, heat and ignition sources. [CHEM]
Shelf life	2 years when stored in the original sealed container under recommended conditions (per client instruction; consistent with the APVMA evaluation stating the active is expected stable for at least 2 years). [USR]
Environmental fate	Soil DT50 <1-4 d (20 deg C); Koc 82-307 (supplier TDS; study reports to be archived) [TDS1]

5 HANDLING, STORAGE AND PACKAGING

Handling	Provide local exhaust ventilation where dust is formed. Avoid contact with skin, eyes and clothing; do not eat, drink or smoke while handling; wash hands and exposed skin before breaks. [SDS1]
Storage	Store in the tightly closed original container in a cool, dry, well-ventilated area out of direct sunlight. Keep away from food, feed, fertilisers and seeds. Keep out of reach of children. [TDS1]
Packaging	25 kg drum or customised package (supplier TDS) [TDS1]
Full precautions	See SDS Sections 7 and 8. [SDS1]

6 SAFETY AND TRANSPORT SUMMARY

GHS / CLP classification	Not classified; no pictogram, no signal word and no hazard statement. [SDS1]
Acute oral LD50	>5000 mg/kg bw (rat and mouse) [SDS1]
Acute dermal LD50	>2000 mg/kg bw (rat) [SDS1]
Acute inhalation LC50	>4.21 mg/L air (4 h, whole body, rat) [SDS1]
Aquatic toxicity	Fish LC50 (96 h) >100 mg/L; Daphnia EC50 (48 h) >100 ppm; algae EbC50 (72 h) >100 mg/L. [SDS1]
Transport classification	Not regulated / not dangerous goods (ADR/RID, IMDG, IATA); no UN number, no class, no packing group assigned [SDS1]
Dangerous-goods certificate	No product-specific certificate available - see SDS Section 14 evidence note. [DG]

7 COMMERCIAL / AGRONOMIC DATA NOT COVERED BY AN SDS

7.1 Mode of action (generic mechanism only)

Foliar plant growth regulator; inhibits gibberellin biosynthesis and shortens shoot internodes (US EPA Fact Sheet 2000; generic mechanism, trade names deliberately omitted).

Target crops, application rate and timing are NOT stated here - they must be read from the approved product label and registration dossier.

7.2 US tolerances under 40 CFR 180.547 - reference only, NOT an import MRL

40 CFR 180.547 (current eCFR text): pome fruit group 11 3.0 ppm; sweet cherry 0.40 ppm; strawberry 0.30 ppm; watercress 4.0 ppm; peanut 1.0 ppm; peanut hay 0.60 ppm; cattle/goat/hog/horse/sheep kidney 0.10 ppm. A US tolerance only - it is NOT a destination-country import MRL.

Residues of the growth regulator including metabolites and degradates; compliance is determined by measuring only prohexadione calcium (40 CFR 180.547(a) and (c)).

These are United States tolerances for the active substance. They are not MRLs for any destination country: before any commercial or residue statement, the approved national label, Codex or EU MRL must be checked for the market concerned.

7.3 Data that remains OPEN

The following are intentionally NOT asserted in this TDS. Each requires a separate authoritative source and must not be inferred from an SDS or a CoA.

Target crops / application rate and timing	Approved product label and registration dossier	OPEN
Application method and timing	Approved label and local agronomic recommendation	OPEN
PHI / REI / destination-country MRL	Approved label; Codex / EU MRL database (US tolerances in 7.2 are reference only)	OPEN
Tank-mix compatibility	Compatibility study report	OPEN
Registration numbers / countries	ICAMA and national registration certificates	OPEN
CoA analytical methods and limits	QC method SOP / specification	OPEN
Shelf-life and storage stability study	Stability study report	OPEN
Formulation development / technical grade equivalences	Product development dossier	OPEN
Dangerous-goods classification report	Accredited transport classification / general cargo appraisal	OPEN

8 DATA SOURCES, CONFIDENCE AND OPEN ITEMS

COA	Supplier Certificate of Analysis, batch 20260901, 01 Sep 2026
QC	Manufacturer QC release report, batch 20260403085, 03 Apr 2026
SDS1	Supplier MSDS 'Prohexadione-calcium 92% TC', v1.0, 01 Oct 2026
TDS1	Supplier TDS 'Prohexadione Calcium 92% TC', v1.0, 01 Jun 2025
CHEM	Third-party substance SDS (GHS/CLP format, anonymous commercial supplier), GHS 1.0, 05 Feb 2020
GOJI	Third-party substance SDS (GHS/CLP format, anonymous commercial supplier), v6.1, 04 May 2019
WEB	Public website product record (schema.org Product JSON-LD)
DG	No dangerous-goods packaging inspection certificate exists for this product in either library (122 PRODUCTS certificates / 610 wordbag documents checked, 0 matches)
ECHA	ECHA / EU regulatory identifiers: EC No. 603-193-5 (EINECS); Regulation (EC) No 1907/2006 (REACH) - active substances for plant protection products are exempt from registration (Art. 2(2))
REG	EU regulatory approval under Regulation (EC) No 1107/2009; Commission Implementing Regulation (EU) No 702/2011 (CIPAC No. 567.020; approval 1 Jan 2012, expiry 31 Dec 2021, extended by (EU) 2019/291); AERU PPDB (updated Oct 2026) lists EU inclusion expiry 31/05/2026
PPDB	AERU Pesticide Properties Database, University of Hertfordshire, last updated 20/10/2026 (EU regulatory & EFSA evaluation data)
AG	APVMA (Australia) evaluation report on prohexadione-calcium (pub. 13911) and PMRA (Canada) evaluation report H113-7-2006 - physico-chemical properties, vapour pressure, storage stability
USR	Client instruction, 12 November 2026: shelf life = 2 years
EPA	US EPA Pesticide Fact Sheet 'Prohexadione Calcium, New Chemical Registration' (26 Apr 2000, 8 pp., nepis.epa.gov P100BICE) and 40 CFR 180.547 (eCFR current text read 13 Nov 2026) - ACTIVE-SUBSTANCE level regulatory data, not a study on this 92% TC formulation
OPEN	Not stated in any supplied source - open item, value not estimated

Confidence: values tagged COA / QC / SDS1 / TDS1 are verbatim internal records (fact); CHEM / GOJI are third-party substance SDS (fact, single-source items flagged for verification); WEB is the public product record; OPEN is unknown. No numerical value has been estimated and no data from a different active substance, formulation or strength has been reused.

Corrections against TDS v1.0 (01 Jun 2025): CAS number normalised to ASCII 127277-53-6 (was written with typographic dashes); the unsupported acute-oral hazard wording used in v1.0 was deleted because it contradicted the not-classified SDS and LD50 >5000 mg/kg; acute inhalation LC50 unified to >4.21 mg/L; document control, source tags, open items and disclaimer added.

9 DISCLAIMER

This document is a technical reference compiled from the supplier SDS, batch quality records and third-party substance SDS. It is not a certificate of analysis, a registered label, a specification guarantee, a dangerous-goods classification report or a substitute for the Safety Data Sheet. Registration status, approved uses, MRLs and transport declarations must be confirmed against the current official publications of the country of destination. Formal commercial issue requires QC and regulatory sign-off.

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