Copper hydroxide 96% TC - Technical Data Sheet

Shanghai Bosman Industrial Co., Limited (上海晓博国际贸易有限公司) | Shanghai, P.R. China | info@bosmangroup.com | www.bosmangroup.com

Source SDS	BM-SDS-0427 (our product SDS) [SDS]
Source CoA	96% copper hydroxide, sampled/tested 22 May 2022 (batch fields blank) [COA]
Data basis	Batch CoA + our SDS/TDS + public authorities (ECHA CLP Annex VI, PubChem/HSDB/Merck, FAO/WHO INCHEM) [WEB]
Review status	Technical draft - QC / regulatory sign-off required before commercial issue [WEB]
Product name	Copper hydroxide 96% TC [COA]
Document no.	BM-TDS-0427 [WEB]
Version / status	v1.0 - 19 November 2026 (QC / regulatory sign-off required before commercial issue) [WEB]
Issue date	19 November 2026 [WEB]
Format	Technical Data Sheet - 9 sections [WEB]
Language	EN [WEB]

Scope: technical reference consolidating the supplied batch CoA, our safety data sheet and product record, and - for fields missing from those documents - information published by global authoritative bodies. Every value carries a source tag; remaining unknowns are OPEN and have NOT been estimated. Batch measurements are not product guarantees. This is not a registered label, a CoA or a substitute for the SDS.

Data-status rule: values tagged ECHA / PUBCHEM / FAO-IPCS / ECHA-RAC describe the ACTIVE SUBSTANCE or copper ion, not a measurement of the supplied 22 May 2022 batch. They are contextual reference only; release specification and batch values remain those of the CoA. Registration, label and transport claims must be confirmed in the country of destination.

1 PRODUCT IDENTIFICATION

Trade name	Copper hydroxide 96% TC [COA]
Product type / formulation	Technical material (TC) - active substance (fungicide); 96% TC [SDS]
Active substance	Copper hydroxide (copper dihydroxide) [SDS/ECHA]
IUPAC name	copper(II) hydroxide; copper dihydroxide; cupric hydroxide [PUBCHEM] [PUBCHEM]
Molecular formula / mass	Cu(OH)2; molar mass 97.56 g/mol (active substance) [PUBCHEM] [PUBCHEM]
CAS No.	20427-59-2 [COA/SDS/ECHA]
EC No.	243-815-9 [ECHA/PUBCHEM]
CLP index No. / UNII / EPA code	029-021-00-3 / 3314XO9W9A / 023401 [ECHA/PUBCHEM]
Product category	Fungicide [WEB]
Analysis standard	Not stated on the supplied COA [OPEN] [COA]
Batch / date	Not stated (blank on supplied COA photo) [OPEN]; Sampling and test date 22 May 2022 (batch number blank) [COA] [COA]
Identified use	Technical material / active substance intended for further formulation into copper-based fungicide products; not for direct application [SDS]. [SDS]
Supplier	Shanghai Bosman Industrial Co., Limited (上海晓博国际贸易有限公司) [SDS]
Supplier address	No. 1611, North Sichuan Road, Hongkou District, Shanghai 200080, P.R. China [SDS] [SDS]
Telephone / Fax	+86 21 6306 5878 [SDS] / +86 21 6306 5878 [SDS] [SDS]
E-mail / Website	info@bosmangroup.com [SDS] / www.bosmangroup.com [SDS] [SDS]
Emergency telephone	Contact your local poisons information centre / emergency services (120 in mainland China) [OPEN: dedicated line not stated] [SDS]

Identity cross-check: COA, SDS §3 and the ECHA/PubChem records all give CAS 20427-59-2 - consistent. EC 243-815-9 and Index 029-021-00-3 are the official identifiers for copper dihydroxide (substance identifiers, not product registrations).
Note on the supplied COA: the file is named for a 97% product, but its printed product name is 96% copper hydroxide and its assay result is 96%; it matches our 96% TC reference COA item-for-item. It is therefore recorded as 96% TC (user-confirmed 19 Nov 2026). The supplied COA photo lists the impurity item as 'Cu(Cb)' with limit <=0.001 and result 0.0007. This is a spelling/scanning error for Cd (cadmium): our authoritative English COA for the same 96% TC grade lists 'Cd, % <=0.001 / 0.0007' with the identical value set. It is recorded as Cd and the defect is flagged for correction at source.
Note on product category / use: Our website classifies copper hydroxide as a fungicide; the SDS describes use as an active substance for formulation. The registered use must be confirmed from the approved national label.

2 COMPOSITION / SPECIFICATION (QC RELEASE BASIS)

Parameter	Standard / measured result	Source
Appearance	Blue powder / Blue powder [COA]	
Content of copper hydroxide, %	>= 96 / 96 [COA]	
Cadmium (Cd), %	<= 0.001 / 0.0007 [COA/COA-REF]	

Parameter	Standard / measured result	Source
Water, %	<= 1.0 / 0.50 [COA]	
Arsenic (As), %	<= 0.01 / 0.005 [COA]	
Lead (Pb), %	<= 0.02 / 0.006 [COA]	
Hydrochloric-acid insolubles, %	<= 0.2 / 0.05 [COA]	
Fineness (wet sieve, 325 mesh)	Qualified / Qualified [COA]	
pH	6.5 - 11 / 9.06 [COA]	

All measured results are from the supplied COA sample of 22 May 2022; they are batch measurements, not guaranteed limits for other batches. Batch number on the photo is blank [OPEN]. Conclusion: Qualified (all items) [COA]

3 PHYSICAL AND CHEMICAL PROPERTIES

Property	Value	Source
Physical state	Solid; blue to blue-green gel or light blue crystalline powder [COA/PUBCHEM] [COA/PUBCHEM]	
Appearance / colour	Blue powder [COA]; Blue powder (22 May 2022 sample) [COA] [COA]	
Odour	Odourless [PUBCHEM] [PUBCHEM]	
pH (as supplied)	6.5 - 11; measured 9.06 [COA]	
Water content	<= 1.0 %; measured 0.50 % [COA]	
Hydrochloric-acid insolubles	<= 0.2 %; measured 0.05 % [COA]	
Melting point / decomposition	Decomposes at melting point with loss of water [PUBCHEM]; no true boiling point [PUBCHEM]	
Boiling point	Not applicable - decomposes before boiling [PUBCHEM] [PUBCHEM]	
Flash point	*OPEN - not stated in source* [OPEN]	
Density	3.37 g/cm3 at 25 C [PUBCHEM, Merck Index] [PUBCHEM]	
Vapour pressure	Not applicable - inorganic non-volatile solid [PUBCHEM]; copper not volatile at ambient temperature [ECHA-RAC] [PUBCHEM/ECHA-RAC]	
Water solubility	Water: very low / practically insoluble (computer-predicted; no reliable measured value located) [PUBCHEM/OPEN]. Soluble in acids, concentrated alkali and ammonia; insoluble in organic solvents [PUBCHEM, Merck Index/CRC]. [PUBCHEM/OPEN]	
Organic solvent solubility	Insoluble in organic solvents; soluble in acids, concentrated alkali and ammonia [PUBCHEM]	
Partition coefficient (log Kow)	Not applicable - inorganic substance; log Pow not a meaningful descriptor [PUBCHEM] [PUBCHEM]	
Auto-ignition temperature	*OPEN - not stated in source* [OPEN]	
Explosive properties	Not classified as explosive [ECHA] [ECHA]	
Oxidising properties	Not classified as oxidising [ECHA] [ECHA]	
Decomposition temperature	Decomposes on heating with loss of water; may form black copper(II) oxide [PUBCHEM] [PUBCHEM]	
Fineness	Wet sieve 325 mesh, qualified [COA] [COA]	

Data-quality note: Our SDS v1.0 §9 marks several phys-chemical fields 'Not determined'. In this revision the missing fields are filled from PubChem/HSDB, Merck Index, CRC Handbook and ECHA at the ACTIVE-SUBSTANCE level, with source tags. These public values are contextual reference only, NOT batch measurements or specification guarantees for our 96% TC. Where no reliable value exists the item stays OPEN.

4 STABILITY AND REACTIVITY

Reactivity	No hazardous polymerisation expected; contact with incompatible materials may generate heat or hazardous fumes [SDS]. [SDS]
Chemical stability	Stable under recommended storage; may decompose to black copper(II) oxide on standing or heating depending on preparation method [PUBCHEM]. [PUBCHEM/SDS]
Conditions to avoid	Heat and temperatures near decomposition; direct sunlight; prolonged storage [PUBCHEM/SDS]. [PUBCHEM/SDS]
Incompatible materials	Strong acids, strong bases and strong oxidising agents; keep away from food, feed and drinking water [PUBCHEM/SDS]. [SDS/PUBCHEM]
Hazardous decomposition products	On heating/decomposition may form black copper(II) oxide and toxic copper fumes [PUBCHEM/SDS]. [PUBCHEM/SDS]

Shelf life (product-specific)	*OPEN - not stated in source* [OPEN]

Product-specific shelf life not determinable from the COA or consulted public sources [OPEN]. A product-specific shelf life still requires a stability study on our 96% TC (OPEN).

5 HANDLING, STORAGE AND PACKAGING

Handling	Avoid dust formation and breathing dust/mist; use local exhaust ventilation; avoid contact with eyes, skin and clothing; wash hands after handling; do not eat, drink or smoke in the handling area [SDS]. [SDS]
Storage	Store in a cool, dry, well-ventilated area in tightly closed original containers, protected from heat and direct sunlight, away from food, feed and drinking water [SDS]. [SDS]
Packaging	Sales package for 96% TC not stated on the supplied COA [OPEN]. Historical DG certificate [DG-CERT, different formulation 77% WP, expired]: woven plastic bag 50 x 90 cm, 25 kg net / 25.2 kg gross per bag, 160 packages, sea transport, filled 16 May 2017. Reference only - NOT a packaging specification for 96% TC [DG-CERT/OPEN]. [DG-CERT/OPEN]
Engineering controls	Use only in well-ventilated areas, preferably under local exhaust ventilation; avoid generating dust or mist. [SDS]
Eye / face protection	Tight-fitting protective goggles (EN 166); eye/face protection given Eye Dam. 1 (H318). [SDS/ECHA]
Skin protection	Chemical-resistant gloves (e.g. nitrile, EN 374), long-sleeved clothing, closed footwear. [SDS]
Respiratory protection	Approved particle-filter respirator (e.g. FFP2/FFP3) where dust may exceed the exposure limit; H330 applies to the active substance. [SDS/ECHA]
Full precautions	See SDS Sections 7 and 8. [SDS]

6 SAFETY AND TRANSPORT SUMMARY

GHS / CLP classification: Signal word DANGER. Source: ECHA CLP Annex VI harmonised entry for copper dihydroxide (Index 029-021-00-3).

Hazard statement	Classification / wording	Source
H330	Acute toxicity, inhalation, Category 2 - Fatal if inhaled. [ECHA]	[ECHA]
H302	Acute toxicity, oral, Category 4 - Harmful if swallowed. [ECHA]	[ECHA]
H318	Serious eye damage, Category 1 - Causes serious eye damage. [ECHA]	[ECHA]
H400	Hazardous to the aquatic environment, acute, Category 1 - Very toxic to aquatic life. [ECHA]	[ECHA]
H410	Hazardous to the aquatic environment, chronic, Category 1 - Very toxic to aquatic life with long lasting effects. [ECHA]	[ECHA]

H-category note: Classification follows the CLP Annex VI harmonised entry for copper dihydroxide (Index 029-021-00-3) [ECHA], and matches the classification in our SDS v1.0 §3 (which listed chronic aquatic Cat 2/H411; the current harmonised entry is chronic Cat 1/H410 - the harmonised value is used and the historical difference is noted). Signal word Danger; M-factor 10 for acute and chronic aquatic hazard [ECHA/RAC].

Precautionary - prevention	P260, P264, P270, P271, P273, P280, P284 (per CLP classification; P284 for fatal-by-inhalation H330) [ECHA/SDS] [ECHA/SDS]
Precautionary - response	P301+P312, P304+P340, P305+P351+P338, P310, P330, P391 [ECHA/SDS] [ECHA/SDS]
Precautionary - storage	P403+P233, P405 [ECHA/SDS] [ECHA/SDS]
Precautionary - disposal	P501 - dispose of contents/container per local/regional/national/international regulation [ECHA/SDS] [ECHA/SDS]
Occupational exposure limit	ACGIH TLV-TWA copper dust & mist (as Cu): 1.0 mg Cu/m3 [FAO/IPCS]
Aquatic toxicity	H400/H410; M=10; numeric copper-ion endpoints below [ECHA-RAC]

Public-authority toxicology - active substance, not our batch

Endpoint	Public value / study basis	Source
Acute oral LD50 - rat	No reliable copper-hydroxide-specific measured value located; copper salts oral LD50 (copper sulphate) ~300 mg/kg rat [FAO/IPCS]. Acute Tox. 4 / H302 [ECHA]	[FAO/IPCS + ECHA/OPEN]
Acute inhalation	Fatal if inhaled - Acute Tox. 2 / H330 (harmonised) [ECHA]; copper dust/mist exposure can cause metal-fume fever [FAO/IPCS]	[ECHA + FAO/IPCS]
Acute dermal LD50	No reliable value located; not classified for acute dermal toxicity in the harmonised entry [ECHA]	[ECHA/OPEN]
Serious eye damage	Eye Dam. 1 / H318 - causes serious eye damage [ECHA]	[ECHA]
Human fatal dose	Copper hydroxide ~200 mg/kg bodyweight (fatal oral dose, cited by FAO/WHO JECFA) [FAO/IPCS]	[FAO/IPCS]
Occupational exposure limit	ACGIH TLV-TWA (copper dust and mist, as Cu): 1.0 mg Cu/m3 [FAO/IPCS]	[FAO/IPCS]
Mode of action	Copper is an essential element under homeostatic control; excess causes GI irritation/corrosion, hepatic and renal damage, haemolysis [FAO/IPCS]	[FAO/IPCS]
ADI / ARfD	Copper ADI context in JECFA monograph; product-specific ADI/ARfD not located [FAO/IPCS/OPEN]	[FAO/IPCS/OPEN]

Public-authority ecotoxicology - active substance / copper ion, not our batch

Endpoint	Public value / study basis	Source
Aquatic hazard classification	Aquatic Acute 1 (H400) and Aquatic Chronic 1 (H410); M=10 acute and chronic [ECHA/ECHA-RAC]	[ECHA + ECHA-RAC]
Fish acute LC50	Lowest geomean 11.7-14.9 ug dissolved Cu/L (P. promelas / D. rerio; pH 5.5-7.5, DOC dependent) [ECHA-RAC]	[ECHA-RAC]
Aquatic invertebrates acute EC50	11-16 ug dissolved Cu/L (Daphnia magna / Ceriodaphnia dubia, pH/DOC dependent) [ECHA-RAC]	[ECHA-RAC]
Algae acute ErC50	31.6-104.9 ug dissolved Cu/L (Pseudokirchneriella subcapitata, pH/DOC dependent) [ECHA-RAC]	[ECHA-RAC]
Bioaccumulation / degradation	Copper cannot be degraded; essential element under homeostasis; BCF not indicative of accumulation for metals [ECHA-RAC]	[ECHA-RAC]
German water hazard class (WGK)	Not located for copper dihydroxide specifically [OPEN]	[OPEN]

Toxicology note: Our SDS v1.0 §11 gives classification but no numeric LD50/LC50. Numeric endpoints below are added from FAO/WHO INCHEM at the active-substance/copper-ion level; they are not GLP studies on our 96% TC batch and are not product guarantees.
Ecology note: Our SDS v1.0 §12 classifies acute aquatic Cat 1 / H400 and chronic aquatic (historically Cat 2/H411; harmonised Cat 1/H410). ECHA CLH gives copper-ion aquatic endpoints; numeric values are expressed as dissolved copper and are strongly pH/DOC dependent. They describe the active substance / copper ion, NOT our 96% TC batch, and are contextual reference only.
Symptoms / effects: Ingestion: nausea, vomiting, abdominal pain and diarrhoea; large doses cause GI corrosion, hepatic and renal damage, CNS effects [FAO/IPCS]. Inhalation of dust/mist: respiratory irritation, metal-fume fever (chills, fever, myalgia) [FAO/IPCS]. Eye: serious damage [ECHA].
PBT / vPvB: PBT/vPvB: copper is an element and cannot be degraded; no conclusive PBT/vPvB assessment located for copper dihydroxide [ECHA-RAC/OPEN]. Endocrine disruptors: Endocrine-disrupting properties: no conclusion located in consulted public sources [OPEN].

Transport classification	Sea transport: two historical, now EXPIRED documents for 77% copper hydroxide WP (NOT this 96% TC) agree on UN 3077, Class 9, Packing Group III: a dangerous-goods classification report [DG-CLASS, DG1415053, valid to 16 Dec 2015] and an exit packing-use inspection certificate [DG-CERT, valid to 16 Nov 2017]. The classification report gives the proper shipping name 'ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.', Class 9 environmental label and no subsidiary risk. ADR/RID and IATA entries for 96% TC remain unassigned; confirm against current editions and the approved label before shipment [DG-CLASS/DG-CERT/OPEN]. [DG-CLASS/DG-CERT/OPEN]
Proper shipping name (historical)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (对环境有害的固态物质,未另作规定的) [DG-CLASS, historical 77% WP, EXPIRED - confirm for 96% TC] [DG-CLASS/OPEN]
Transport label / subsidiary risk	Class 9 environmental hazard label (fish and tree symbol); subsidiary risk: none [DG-CLASS, historical 77% WP, EXPIRED] [DG-CLASS/OPEN]
Classification basis	UN Recommendations on the Transport of Dangerous Goods, Model Regulations, 18th revised edition [DG-CLASS]; sea transport basis SN/T 0370.3-2012 and IMDG Code [DG-CERT] - both historical, expired [DG-CLASS/DG-CERT]

Transport note (DG-CLASS/DG-CERT: historical, expired, 77% WP - applicability qualification applies): Historical DG evidence (both anonymised, EXPIRED, different formulation 77% WP): (1) DG classification report [DG-CLASS] No. DG1415053, dated 17 Dec 2014, valid to 16 Dec 2015, criteria UN Model Regulations 18th revised edition: main hazard environmentally hazardous, no subsidiary risk, UN 3077, Class 9, PG III, proper shipping name 'ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.', Class 9 environmental (fish/tree) label. (2) Exit packing-use certificate [DG-CERT] 317000000078970001 (performance 31600000007987001, issued 16 Mar 2017, valid to 16 Nov 2017): UN 3077, Class 9, PG III, solid, sea, SN/T 0370.3-2012 + IMDG Code; woven bags 50 x 90 cm, 25 kg net / 25.2 kg gross, 160 packages, filled 16 May 2017. Both documents are expired and cover a different formulation; they are cited solely as historical supporting evidence for the Class 9 / UN 3077 approach for solid copper hydroxide. They are not current reports/certificates and not a classification for 96% TC. No UN number is assigned to 96% TC by inference: regulatory sign-off against current ADR/IMDG/IATA editions, the approved label, a current classification report and a current packing certificate for the actual shipment are required. [DG-CLASS/DG-CERT/OPEN]

7 COMMERCIAL / AGRONOMIC DATA AND PUBLIC REGULATORY CONTEXT

The supplied COA and our SDS are quality / hazard-communication documents and carry no approved-use or sales-specification data. Missing items that public authoritative bodies publish are filled below at ACTIVE-SUBSTANCE level; items that only a national label, our QC or a registration dossier can supply remain OPEN.

CLP Annex VI / index	029-021-00-3 - listed; copper dihydroxide; M=10 acute & chronic aquatic	[ECHA]
One-time M-factor opinion	ECHA RAC opinion on M-factors for copper substances (Reg (EU) 2016/1179)	[ECHA-RAC]
Target pathogens / uses	Copper-based fungicide active substance for formulation; approved crops, sites and dose rates are label-dependent	[SDS/OPEN]
Crop use / dose rate	Technical material - not for direct application; dose rate must come from the approved national label	[SDS/OPEN]
Packaging sizes / palletisation	Historical DG-CERT (77% WP, expired): woven bag 50 x 90 cm, 25 kg net; 96% TC sales pack [OPEN]	[DG-CERT/OPEN]
Impurity profile	Routine COA impurities: Cd <=0.001 %, As <=0.01 %, Pb <=0.02 %, water <=1.0 %, HCl insolubles <=0.2 %; full profile requires analytical specification	[COA/OPEN]
Shelf-life / storage stability	Product-specific stability study required	[OPEN]
CoA analytical methods / limits	Our batch CoA method SOP must supply release limits; batch number blank on the supplied photo	[COA/OPEN]

Transport classification	IMDG: UN 3077 / Class 9 / PG III with shipping name 'ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.' on two expired historical documents for 77% WP [DG-CLASS/DG-CERT]; 96% TC must be confirmed against current ADR/IMDG/IATA and the approved label [OPEN]	[DG-CLASS /DG-CERT/ OPEN]
Registration numbers / countries	National pesticide/fungicide registration certificates required	[OPEN]
Occupational exposure limit	ACGIH TLV-TWA copper dust and mist (as Cu) 1.0 mg/m3	[FAO/IPCS]

8 DATA SOURCES, CONFIDENCE AND OPEN ITEMS

COA	Supplied Certificate of Analysis photo for 96% copper hydroxide (sampling/test date 22 May 2022; batch fields blank). Batch number and measured values are technical data provenance only. The issuing third-party laboratory name, analyst, reviewer and seal are withheld per our desensitisation rule.
COA-REF	Our reference English COA 'Copper hydroxide 96% TC' batch 20230628 (28 Jun 2023), same item set; used to confirm that the photo item 'Cu(Cb)' is a misprint for Cd.
SDS	Safety Data Sheet 'Copper hydroxide 96% TC' v1.0, 01 Oct 2022, issued by Shanghai Bosman Industrial Co., Limited.
TDS	Technical Data Sheet 'Copper hydroxide 96% TC', issued by Shanghai Bosman Industrial Co., Limited.
ECHA	ECHA / CLP Annex VI harmonised entry for copper dihydroxide: Index 029-021-00-3, EC 243-815-9, CAS 20427-59-2; classification Acute Tox. 2 H330, Acute Tox. 4 H302, Eye Dam. 1 H318, Aquatic Acute 1 H400, Aquatic Chronic 1 H410; GHS06/05/09, Danger; M=10. Public regulatory data, active-substance level.
ECHA-RAC	ECHA Committee for Risk Assessment: opinion on M-factors for long-term aquatic hazard of copper substances (Reg (EU) 2016/1179) and CLH report for copper. Aquatic endpoints in ug dissolved Cu/L with pH/DOC dependence. Public authority, active-substance/copper-ion level.
PUBCHEM	PubChem / HSDB / Merck Index / CRC Handbook, US NIH-NLM public database: copper(II) hydroxide CID 164826/30154 - appearance, decomposition at melting point, density 3.37 g/cm3, solubility, molar mass, UNII 3314XO9W9A, EPA PC code 023401. Public data, active-substance level.
FAO/IPCS	FAO/WHO INCHEM - JECFA monograph 'Copper and cupric sulphate' (FAO Nutrition Meetings Report Series 48a) and IPCS PIM 'Copper and copper salts': fatal oral human dose copper hydroxide ~200 mg/kg, GI/corrosion and hepatic/renal effects, copper fume fever, ACGIH TLV-TWA 1.0 mg Cu/m3, ADI context. Public UN data.
GHS	Official UN GHS pictograms (red diamond / white field / black symbol), UNECE GHS standard as distributed by PubChem (NIH) and held in our local GHS asset library. Selected per CLP Annex VI [ECHA].
DG-CERT	Our historical 'Exit Dangerous Goods Transport Packing Use Inspection Result Certificate' (P.R. China entry-exit inspection authority), certificate 317000000078970001, performance-inspection result 31600000007987001, issued 16 Mar 2017, valid to 16 Nov 2017 (EXPIRED). It covered 77% copper hydroxide WP (a DIFFERENT formulation from this 96% TC), sea transport, UN 3077 / Class 9 / Packing Group III, solid, test basis SN/T 0370.3-2012 and the IMDG Code. Third-party applicant/user company name, signatures and seal are withheld per our desensitisation rule. Cited only as historical supporting evidence for the Class 9 / UN 3077 approach; it is NOT a current certificate and NOT a classification report for 96% TC.
DG-CLASS	Our historical 'Certificate for Classification of Dangerous Goods' (a Chinese entry-exit commodity safety testing centre / state key laboratory for chemical classification and evaluation - a public authority, specific name withheld), No. DG1415053, dated 17 Dec 2014, VALID TO 16 Dec 2015 (EXPIRED). It classified 77% copper hydroxide WP (a DIFFERENT formulation from this 96% TC): main hazard 'environmentally hazardous', no subsidiary risk, UN 3077, Class 9, Packing Group III, proper shipping name 'ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.', Class 9 environmental label (fish/tree), criteria UN Recommendations on the Transport of Dangerous Goods, Model Regulations, 18th revised edition. Applicant, manufacturer, signatures and seals (third-party commercial names) are withheld per our desensitisation rule. Cited only as historical supporting evidence for the Class 9 / UN 3077 approach; it is NOT a current report and NOT a classification for 96% TC.
OPEN	Not stated in the supplied COA / our SDS / TDS or in the consulted public-authority sources; open item, value not estimated. Requires batch measurement, registration dossier or GLP study.

Confidence: COA / SDS / WEB values are quoted from the supplied batch CoA, our GHS/CLP SDS and product records. ECHA, PubChem and FAO/WHO values are quoted from public documents of those authoritative bodies and describe the active substance or copper ion, not our 96% TC batch; source documents and field-by-field caveats are kept in the accompanying public_sources ledger (authority_field_ledger.csv: 38 fields, including 6 DG-CERT/DG-CLASS historical fields; still_open_after_public_sources.csv: 18 items). The historical DG documents are anonymised, EXPIRED records for 77% WP (a different formulation), cited only to document the Class 9 / UN 3077 approach, never as current certificates or a classification report for 96% TC. The COA item misprint 'Cu(Cb)' is recorded as Cd after cross-check with our 96% TC reference COA. No value has been estimated; OPEN means no usable value was found in either our documents or the consulted public authorities.
All third-party commercial names (the issuing laboratory, its analyst, reviewer and seal) have been removed from the batch CoA data; only our own company (Shanghai Bosman Industrial Co., Limited / 上海晓博国际贸易有限公司) and public regulatory bodies are named.

9 DISCLAIMER

This document is a technical reference compiled from the supplied batch CoA, our safety data sheet and product records, and public data published by global authoritative bodies for the missing fields. Public-authority values are active-substance / copper-ion level reference only, not batch measurements, specification guarantees or GLP studies on our 96% TC. This document 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 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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