SAFETY DATA SHEET

According to Regulation (EC) No 1272/2008 (CLP) and UN GHS - 16-section format

Product name	Monopotassium Phosphate (MKP) 00-52-34
Supplier	Shanghai Bosman Industrial Co., Limited
SDS number	BM-SDS-DRAFT-MKP [TBC] (assign the official Bosman SDS number)
Version / Revision date	0.1 - DRAFT for technical review / 09 November 2026
Supersedes	New document. No previous Bosman SDS for this product was located in the working archive.
Language / Format	EN / UN GHS (Rev. 9) / CLP - 16 sections
Document status	DRAFT - NOT FOR COMMERCIAL USE. Items marked [TBC] must be completed and the 'not classified' conclusion signed off by a competent person before issue.

Assumptions carried into this draft: Product: non-hazardous mono-constituent substance KH2PO4, CAS 7778-77-0; not a mixture and not a plant protection product. No CLP classification applies [S3][S4][S5][S7].; Grade: fertiliser-grade MKP 00-52-34, purity >=98% w/w, based on two in-house / supplier CoAs [S1][S2]. Exact commercial grade (fertiliser / food / feed / reagent) is [TBC] and governs Section 15.

1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name	Monopotassium Phosphate (MKP) 00-52-34
Chemical name (IUPAC)	Potassium dihydrogen phosphate / potassium dihydrogen orthophosphate
Synonyms	MKP; monopotassium phosphate; potassium phosphate monobasic; potassium biphosphate; KH2PO4; INS/E 340(i) (food grade only)
Chinese common name	Lin suan er qing jia (monopotassium phosphate); the Chinese designation and the GB 30000 classification are given in the Chinese companion note
Molecular formula / mass	H2KO4P / 136.09 g/mol
CAS number	7778-77-0
EC number	231-913-4
REACH registration number	01-2119490224-41-xxxx [TBC] confirm the complete tail number
CLP Index number	None - no harmonised classification in Annex VI [S3][S6]
UFI	Not applicable - the product is not a hazardous mixture and no CLP Article 45 poison-centre notification is required
Nanoform	Not applicable - crystalline bulk solid, no nanoform [S1][S2]
Substance type	Mono-constituent substance (not a mixture)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: water-soluble phosphorus/potassium fertiliser for fertigation, foliar application, hydroponic nutrient solutions and fertiliser blending (declared analysis 0-52-34: approx. 52% P2O5 and 34% K2O) [S1][S2]; pH buffer and sequestrant in technical formulations; phosphorus/potassium nutrient in fermentation and microbiological media; water-treatment and industrial phosphate source. Food-additive use (E 340(i), acidity regulator / buffer / yeast nutrient) and feed use apply ONLY if the specific lot is certified to the relevant purity specification [S15].

Uses advised against: any use not stated above without prior written assessment; pharmaceutical, medical, injectable or parenteral use; use as a plant protection product (this substance is a fertiliser, not a pesticide); food, feed or cosmetic use of non-certified technical grade; discharge of concentrated product or its solutions to surface water, drains or sewers.

1.3 Details of the supplier of the safety data sheet

Supplier	Shanghai Bosman Industrial Co., Limited
Address	No. 1611, North Sichuan Road, Hongkou District, Shanghai 200080, P.R. China
Telephone / Fax	+86 21 6306 5878 / +86 21 6091 1557
E-mail (competent person)	info@bosmangroup.com [TBC] nominate the responsible person
Website	www.bosmangroup.com
Manufacturer	[TBC] name, address and REACH role of the producing plant / EU Only Representative. The archived CoA names Sichuan Shucan Chemical Co., Ltd. as one upstream producer [S2]; this is a reference batch, not necessarily the current one.

1.4 Emergency telephone number

Emergency telephone	+86 21 6356 6528 (24 h) [TBC] verify that this number is currently manned
EU / destination-country contact	[TBC] appoint a local 24 h emergency number or poison-centre arrangement where required by national rules
Availability	For a non-classified substance CLP Article 45 poison-centre notification is not required; nevertheless a 24 h contact is recommended for export documentation.

2 HAZARDS IDENTIFICATION

HEADLINE CONCLUSION: This substance does NOT meet the criteria for classification as hazardous under Regulation (EC) No 1272/2008 (CLP). No pictogram, no signal word, no hazard statement and no mandatory precautionary statement apply.

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008, as amended by Commission Delegated Regulation (EU) 2023/707: not classified [S3][S4][S5][S6][S7][S9]. The substance has no entry in Annex VI (no harmonised classification), and the REACH registration dossier as reflected in compliant third-party SDS records no ATE, SCL or M-factor [S6][S7].

Hazard group	CLP conclusion	Basis
Physical hazards	Not classified	Non-combustible inorganic salt; no explosive, oxidising, flammable, pyrophoric, self-heating or water-reactive properties [S5][S7][S8].
Health hazards	Not classified	Acute toxicity above Category 4 cut-offs; pH approx. 4.4, no corrosion or irritation; no sensitisation, CMR, STOT or aspiration hazard [S2][S7][S10].
Environmental hazards	Not classified	All three aquatic endpoints > 100 mg/L; no PBT/vPvB [S4][S7].
New classes (EU) 2023/707	Not classified	ED HH 1/2, ED ENV 1/2, PBT, vPvB, PMT, vPvM: none of the criteria is met or applicable. See 2.3 and Appendix A.2 [S11].
Annex VI harmonised entry	None	No Index number; no agreed harmonised classification [S3][S6].

2.2 Label elements

Labelling according to CLP	Not required. The product is not a hazardous substance and no CLP label elements apply [S4][S5].
Hazard pictograms	None
Signal word	None
Hazard statements (H)	None
Supplemental statements (EUH)	None. EUH401 does not apply (not a plant protection product); EUH210 is not triggered.
Mandatory precautionary statements	None

Voluntary good-practice advice (NOT CLP label elements and NOT a classification): some commercial SDS list P261 / P262 / P281 / P302+P352 / P304+P340 / P305+P351+P338 / P337+P313 [S13], and some note 'may cause mild skin or eye irritation' as a hazard not otherwise classified. These relate to nuisance dust, not to a CLP hazard class. If Bosman

chooses to print them, they must be clearly separated from the statutory label so that no false impression of a classification is created.

2.3 Other hazards

- Dust: the crystalline product can generate airborne nuisance dust on handling. Mechanical irritation of eyes and upper airways is possible; observe general dust limits in Section 8. This is not a CLP classification.
- Combustible dust: further processing (milling, blending with organic material) should be assessed for combustible-dust potential before additional processing [S9]. Determine Kst/MIE for the finished powder [TBC].
- Slip hazard: spilled crystals dissolve readily and produce a slippery surface when wet.
- Eutrophication: phosphate is a plant nutrient. Bulk release to surface water can promote algal blooms and oxygen depletion even though the substance is not classified as hazardous to the aquatic environment [S7]. German water hazard class WGK 1 (slightly hazardous to water) applies - see Section 15.
- PBT / vPvB: not PBT, not vPvB [S4][S5]. As a fully dissociating inorganic salt it has no bioaccumulation potential.
- Endocrine disruption: no evidence of endocrine-disrupting properties for human health or the environment [S7][S10]. Section 11.2 / 12.6 record this explicitly because Delegated Regulation (EU) 2023/707 requires the assessment; the transitional period for substances already on the market ended on 1 November 2026 [S11].
- PMT / vPvM: high mobility in water, but the toxicity ('T') criterion is not satisfied (low acute and repeated-dose toxicity, no CMR/STOT), therefore EUH450 / EUH451 do not apply.
- Dietary note (not a CLP hazard): excessive phosphate intake can disturb calcium/phosphate balance; EFSA's group ADI of 40 mg P/kg bw/day does not apply to people with moderate to severe reduction in kidney function [S10].

3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Substance	CAS / EC	Concentration	CLP classification
Potassium dihydrogen phosphate (KH2PO4), M = 136.09 g/mol	CAS 7778-77-0 / EC 231-913-4	>= 98.0% w/w (measured 99.1% and 99.10% in archived CoAs) [S1][S2]	Not classified; no harmonised Annex VI entry, no ATE / SCL / M-factor [S3][S6]

Fertiliser declaration (oxide-equivalent, not additional ingredients): P2O5 52.1-52.2% w/w, K2O 34.0-34.1% w/w, total primary nutrient >= 99.0% [S1][S2]. These are conventional fertiliser-analysis expressions for the same single substance, not components of a mixture.

3.2 Impurities and their classification relevance

Impurity / parameter	Specification [S2]	Measured [S2]	CLP relevance
Moisture (H2O)	<= 0.2%	0.12%	Not hazardous
Water-insoluble matter	<= 0.1%	0.07%	Not hazardous
Fluoride (F)	<= 0.02%	0.004%	Well below 0.1% generic limit
Arsenic (As)	<= 0.005%	0.003%	Well below 0.1% generic limit
Heavy metals (as Pb)	<= 0.005%	0.003%	Well below 0.1% generic limit
Heavy metal (2018 CoA)	<= 0.001%	0.0001%	Independent confirmation [S1]

None of the impurities is intentionally added. All are at least one order of magnitude below the lowest applicable generic concentration limit (0.1% for CMR / ED categories, 1% for sensitisation, 10% for irritation), so no classification is inherited. Re-confirm against the current batch CoA [TBC].

3.3 Mixtures

Not applicable. This product is a mono-constituent substance. If Bosman supplies a blended or fortified product (for example MKP + trace elements, or a liquid formulation), a new mixture classification and a new SDS are required.

4 FIRST AID MEASURES

4.1 Description of first aid measures

General advice	Not expected to be a health hazard under normal conditions of use [S4]. In case of doubt, or if symptoms persist, obtain medical advice and show this SDS to the attending physician. Remove contaminated clothing and wash before reuse.
After inhalation	Move the person to fresh air and keep at rest. If breathing is irregular or has stopped, give artificial respiration. Obtain medical attention if respiratory irritation persists. Dust exposure only.
After skin contact	Rinse skin with water/shower; wash with soap and plenty of water. If redness or irritation develops, seek medical advice [S4][S5].
After eye contact	Rinse cautiously with clean water for several minutes, holding the eyelids open. Remove contact lenses if present and easy to do; continue rinsing. If irritation persists, obtain medical attention [S5][S7].
After ingestion	Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Small amounts normally require no treatment; after large ingestions, or if the person feels unwell, obtain medical advice [S4][S5].
Self-protection of the first aider	Avoid inhaling dust; wear the personal protection described in Section 8.

4.2 Most important symptoms and effects, both acute and delayed

No known acute or delayed symptoms from normal handling have been reported [S5][S7]. Dust may cause transient mechanical irritation of the eyes, nose and throat. Ingestion of very large quantities may cause gastrointestinal discomfort, diarrhoea, hyperphosphataemia and hypocalcaemia; individuals with impaired renal function are more susceptible [S10][S14].

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No specific antidote is known. After a large ingestion, monitor serum phosphate, calcium and renal function. No special immediate treatment is required under normal conditions of use [S4][S7].

5 FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable: coordinate with the surrounding fire - water spray, foam, alcohol-resistant foam, dry powder (ABC), carbon dioxide, dry sand [S5][S7][S9]. Unsuitable: a direct/high-pressure water jet, which disperses the powder and creates phosphate-laden run-off [S5][S8].

5.2 Special hazards arising from the substance or mixture

The product itself is non-combustible and non-flammable [S5][S8]. On strong heating (above approx. 253 C) it dehydrates to potassium metaphosphate (KPO3) and water; under fire conditions phosphorus oxides (PxOy) and potassium oxides may be liberated [S5][S6][S7][S14]. Containers may be damaged by heat. Fire-fighting water containing dissolved phosphate must be contained to prevent eutrophication of receiving waters.

5.3 Advice for firefighters

Do not breathe fumes or decomposition gases. Wear self-contained breathing apparatus and standard protective clothing; fight the fire from a reasonable distance and from upwind [S5][S6]. Cool exposed containers with water spray. Collect and dispose of fire-fighting water in accordance with Section 6 / 13.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: avoid dust formation, avoid breathing dust, avoid contact with eyes and skin, and keep unprotected persons away. For emergency responders: use the PPE in Section 8 (EN 166 eye protection, EN 374 gloves, P1/P2 particulate filter where dust is generated). Ensure adequate ventilation. Beware of slippery surfaces once the product becomes wet.

6.2 Environmental precautions

Keep away from drains, surface water, ground water and soil [S7][S8]. Prevent bulk entry into watercourses: dissolved phosphate is a nutrient and can trigger eutrophication. Notify the competent authority if a significant quantity has entered a watercourse or sewer.

6.3 Methods and materials for containment and cleaning up

- Contain the spill and stop the source. Take up mechanically / dry: sweep, shovel or vacuum with a suitable particulate filter [S7][S9]. Avoid dry brushing that raises dust.
- Place recovered material in clean, dry, labelled, closed containers. Uncontaminated material can be reused as fertiliser - this is the preferred option for a plant nutrient product.
- Do NOT hose the spill into drains. If a final wet clean is unavoidable, use the minimum volume of water and collect the washings for controlled disposal or use as a dilute nutrient solution where lawful.
- Secure the area against slip hazards until cleaning is complete.

6.4 Reference to other sections

See Section 8 for exposure controls and personal protection, Section 13 for disposal, and Section 12.7 for the eutrophication rationale.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

- Handle in accordance with good industrial hygiene and safety practice. Avoid generating and inhaling dust; provide local exhaust ventilation at transfer points, bagging and weighing stations.
- Wash hands before breaks and at the end of the workday. Do not eat, drink or smoke in work areas. Remove contaminated clothing and wash before reuse.
- If the powder is milled, granulated or blended with organic materials, assess combustible-dust potential and provide appropriate explosion protection before processing [S9].
- Formulation note: concentrated KH2PO4 solutions are incompatible with calcium and magnesium salts (insoluble Ca/Mg phosphates precipitate), with strong alkalis (conversion to K2HPO4 / K3PO4), with strong acids and with strong oxidisers [S7][S8]. Prepare dilute solutions and check compatibility before tank mixing.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions	Keep in the original, tightly closed container in a cool, dry, well-ventilated place, protected from moisture, direct sunlight and heat [S1][S5][S7].
Package	25 kg woven bag with inner liner (archived CoA [S2]); confirm the current packaging specification [TBC].
Shelf life / stability	Stable under normal ambient conditions. The archived CoA carries a 2-year expiry date; confirm the current shelf-life statement [TBC].
Incompatible materials	Strong alkalis / caustic potash, strong acids, strong oxidising agents [S7][S8]; calcium and magnesium salts in concentrated solution (precipitation, not a hazardous reaction).
Segregation	Store away from food, feed and pharmaceuticals unless the product is certified to the corresponding grade. Keep containers closed to prevent caking.
Storage class	Non-hazardous; Switzerland LGK/LK 'NG - Non-hazardous' [S7]. Not subject to the German Hazardous Incident Ordinance (12. BImSchV) [S7].

7.3 Specific end use(s)

For fertiliser use, apply at agronomically recommended rates and in accordance with national nutrient-management rules (including nitrate-vulnerable-zone and water-protection requirements). Typical field practice uses 0.5-2% w/v foliar solutions; avoid over-application and run-off. For food or feed uses, only the certified grade and the authorised conditions of use apply [S15][S16].

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational exposure limits: no substance-specific Community or national occupational exposure limit value has been established [S7][S9][S13]. Apply the general / nuisance dust limit of the country of use, for example ACGIH PNOS 10 mg/m3 (inhalable) and 3 mg/m3 (respirable), German TRGS 900 general dust 10 mg/m3 (E) / 3 mg/m3 (A), or UK WEL 10 mg/m3 (inhalable) / 4 mg/m3 (respirable), 8 h TWA. Verify against the national list in force [TBC].

8.1.4 DNEL / DMEL and PNEC (from the REACH registration dossier as reported in [S7]):

Population / route	Effect	Value	Remark
Workers, inhalation, long-term systemic	DNEL	14.82 mg/m3	Dust/aerosol; consistent with general dust limits [S7]
General population, oral, long-term systemic	DNEL	70 mg/kg bw/day	Numerical value coincides with the JECFA MTDI for phosphates expressed as phosphorus [S7][S10]
General population, inhalation, long-term systemic	DNEL	6.35 mg/m3	[S7]
PNEC (aquatic / terrestrial)	Not derived in the available source	No data available	Section 12 endpoints all > 100 mg/L [S7]

8.1.2 / 8.1.3 / 8.1.5: no specific monitoring procedures, air contaminants formed under normal use, or control-banding recommendations apply [S7].

8.2 Exposure controls

Appropriate engineering controls	General and, where dust is generated, local exhaust ventilation; enclosed transfer and dust collection at bagging and weighing points. Provide eyewash facilities.
Eye / face protection	Safety glasses with side shields to EN 166 or equivalent [S7][S8].
Hand protection	Protective gloves to EN 374; nitrile rubber (NBR), thickness > 0.11 mm, breakthrough > 480 min (level 6) is a suitable example [S8]. Replace contaminated gloves.
Skin / body protection	Standard work clothing; preventive skin protection is recommended for prolonged dust contact [S8].
Respiratory protection	Not required under normal conditions. Where dust is generated, use a particulate filter device to EN 143 (P1, or P2 for fine dust) / EN 140 half mask [S7][S8]. Air-purifying respirators do not protect in oxygen-deficient atmospheres.
Thermal hazards	None under normal conditions.
Environmental exposure controls	Prevent uncontrolled release to drains and surface water; see Sections 6 and 12.7.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Property	Value / description	Basis
Physical state	Solid, crystalline / granular crystals	[S1][S2][S7][S8] FACT
Colour / appearance	White crystals; white granular crystals. Colourless single crystals are described for reagent grade	[S1][S2][S7][S8] FACT
Odour / odour threshold	Odourless / not applicable	[S7][S8] FACT
Molecular mass	136.09 g/mol (H2KO4P)	[S6][S7] FACT
pH	4.4 measured for a 1% aqueous solution [S2]; 4.2-4.6 at 20 g/L, 20 C [S8]; approx. 4.4 at 50 g/L, 20 C [S7]. Weakly acidic	[S2] FACT / [S7][S8] FACT-SEC
Melting / decomposition point	approx. 253 C with slow decomposition (literature 252.6 C); dehydration to KPO3	[S8][S14] FACT / LOW
Boiling point	> 449.85 C at 101325 Pa (decomposes before boiling)	[S7] FACT-SEC
Flash point	Not applicable - non-flammable solid	[S8] FACT
Flammability	Non-flammable / non-combustible	[S5][S8] FACT
Explosive limits / explosive properties	Not applicable; no explosive properties	[S7] FACT-SEC
Auto-ignition temperature	No data available / not applicable	[S8]
Vapour pressure / vapour density	Not applicable for an ionic solid; no data available	[S7][S8]
Relative density	2.338-2.34 g/cm3 at approx. 20-25 C	[S8][S14] FACT / LOW
Bulk density	500-1200 kg/m3 (i.e. 0.5-1.2 g/cm3). The aggregator [S8] prints '500-1200 g/cm3', which is a unit error; the kg/m3 reading is used here	[S8] ESTIMATED - unit corrected; measure for the actual product [TBC]
Water solubility	208 g/L at 20 C [S8]; 222 g/L at 20 C [S14]; 22.6 g per 100 mL water [S14]. Values differ because the reporting basis (g/L solution vs g/100 g water) differs. Readily soluble; insoluble in ethanol	[S8] FACT / [S14] LOW - state the method on the final CoA [TBC]
Partition coefficient n-octanol/water (log Kow)	Not applicable - dissociating inorganic salt; log Kow is not defined for ionic species	Scientific assessment; [S7][S8] 'not available'
Viscosity	Not applicable (solid); aqueous solutions are low-viscosity	Scientific assessment
Oxidising properties	None - phosphorus is already in its highest oxidation state (P(V))	Scientific assessment
Decomposition temperature	From approx. 253 C (dehydration); approx. 400 C forms a metaphosphate melt [S14]	[S8][S14]
Particle size	0.05-0.5 mm, >= 90% (Bosman CoA, batch 20201125)	[S1] FACT; confirm respirable fraction [TBC]

9.2 Other information

Hygroscopicity / caking	Low but not zero: the product cakes on prolonged exposure to humidity; keep containers sealed [S1][S2].
Dustiness / explosibility	Combustible-dust parameters (Kst, MIE) have not been determined for this grade [TBC]; an inorganic phosphate salt is not expected to support a dust explosion, but blends with organic materials must be assessed.
Surface tension / dissociation	Dissolves to K+ and H2PO4- / HPO4(2-) (pKa values approx. 2.15, 6.82, 12.38 at 25 C [S14]); no surface-active properties.
Other safety characteristics	No self-heating, no gas evolution on contact with water, no hazardous polymerisation.

Data-quality note: published water-solubility and LD50 values for this substance are not fully consistent between sources. This SDS reports each value with its origin, marks the lower-confidence ones LOW, and never uses a LOW source as the sole basis for a classification decision. See Appendix A.

10 STABILITY AND REACTIVITY

10.1 Reactivity

Not reactive under normal ambient conditions of temperature and pressure [S8]. In concentrated aqueous solution the dihydrogen phosphate ion behaves as a weak acid / buffer.

10.2 Chemical stability

Stable under normal ambient, storage and handling conditions [S8]. Stable in the sealed original package; prolonged humidity exposure causes caking but not chemical decomposition.

10.3 Possibility of hazardous reactions

Violent or vigorous reaction with strong oxidisers, strong alkalis (caustic lye) and strong acids [S8]. With soluble calcium or magnesium salts, insoluble phosphates precipitate - this is a formulation incompatibility (blocked drippers, loss of available P), not a hazardous reaction. No hazardous polymerisation occurs [S13].

10.4 Conditions to avoid

Moisture / humid storage, temperatures above approx. 250 C, and contact with incompatible materials. Avoid generating high dust concentrations in confined spaces.

10.5 Incompatible materials

Strong alkalis, strong acids, strong oxidising agents; calcium and magnesium salts in concentrated solution; reducing agents at high temperature. Store separately from food/feed unless the certified grade applies.

10.6 Hazardous decomposition products

On heating above approx. 253 C: water vapour and potassium metaphosphate (KPO3). Under fire conditions: phosphorus oxides (PxOy, e.g. P2O5) and potassium oxides [S5][S6][S7][S14]. No sulphur oxides, nitrogen oxides, hydrogen halides or carbon monoxide are expected from this pure inorganic salt; packaging materials may produce their own combustion products.

11 TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Endpoint	Conclusion / value	Source
Acute toxicity - oral	Not classified. LD50 oral rat > 2000 mg/kg	[S7]
Acute toxicity - dermal	Not classified. LD50 dermal rat > 2000 mg/kg (OECD 402 / EU B.3); rabbit > 4640 mg/kg quoted in commercial SDS	[S7] / [S13] LOW
Acute toxicity - inhalation	Not classified. LC50 inhalation rat > 0.83 mg/L air (OECD 403 / EU B.2) - a limit value, not a full LC50	[S7]
Skin corrosion / irritation	Not classified. pH approx. 4.4 (50 g/L, 20 C) is not an extreme pH	[S2][S7]
Serious eye damage / irritation	Not classified; mild mechanical dust irritation possible	[S7][S13] LOW
Respiratory / skin sensitisation	Not classified	[S7]
Germ cell mutagenicity	Not classified	[S7]
Carcinogenicity	Not classified; no IARC / NTP / OSHA / ACGIH listing at >= 0.1%	[S7][S13]
Reproductive / developmental toxicity	Not classified; EFSA reported no effects in developmental toxicity studies for phosphates	[S7][S10]
STOT - single / repeated exposure	Not classified. NOAEL oral rat 90-day (OECD 422) = 1000 mg/kg bw/day	[S7]
Aspiration hazard	Not classified (not a liquid hydrocarbon)	[S7]

Weight-of-evidence statement: EFSA's 2019 re-evaluation of phosphates (E 338-341, E 343, E 450-452) describes phosphates as of low acute oral toxicity, with no concern regarding genotoxicity or carcinogenicity and no effects in developmental toxicity studies. The Panel derived a group ADI of 40 mg phosphorus/kg bw/day; JECFA's earlier MTDI was 70 mg P/kg bw/day. The ADI does not apply to people with moderate to severe reduction in kidney function [S10]. These are dietary-exposure conclusions, not CLP classifications.

Data-quality note: a Chinese encyclopaedic source quotes a rat oral LD50 of 4640 mg/kg [S14] and a commercial SDS quotes rabbit dermal > 4640 mg/kg [S13]. Both exceed the 2000 mg/kg Category 4 cut-off and therefore do not change the

'not classified' conclusion, but they are LOW-confidence secondary sources and are not used as the primary basis. See Appendix A.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties	No evidence of endocrine disruption for human health or the environment; the new CLP hazard classes ED HH 1/2 and ED ENV 1/2 (EUH380/381/430/431) do not apply [S7][S10][S11].
11.2.2 Other information	RTECS entry TC6615500 is referenced in [S7]. No CMR, no specific target organ toxicity, no sensitisation. High chronic dietary phosphate intake is a separate nutritional consideration [S10].

12 ECOLOGICAL INFORMATION

12.1 Toxicity

Endpoint	Value	Species / method
Acute fish toxicity, LC50	> 100 mg/L	Oncorhynchus mykiss (rainbow trout) [S7]
Acute crustacean toxicity, EC50 48 h	> 100 mg/L	Daphnia magna [S7]
Algal growth inhibition, EC50 72 h	> 100 mg/L	Desmodesmus subspicatus (formerly Scenedesmus subspicatus) [S7]
Aquatic acute / chronic classification	Not classified	All endpoints > 100 mg/L, far above the 1 mg/L Category 1 threshold [S7]

No data are available for sediment organisms, soil macroorganisms, terrestrial plants or birds in the sources reviewed [TBC]. This is acceptable for a not-classified substance under Annex II but should be revisited if the substance is supplied in significantly larger tonnage or for a new use.

12.2 Persistence and degradability

The concept of biodegradation does not apply to an inorganic salt. In water KH2PO4 dissociates completely into K+ and phosphate species (H2PO4- / HPO4(2-) / PO4(3-) depending on pH); the phosphate enters the natural phosphorus cycle and may be taken up by biota, adsorbed onto Fe/Al/Ca soil minerals, or precipitated. It is not persistent in the sense of an organic PBT substance.

12.3 Bioaccumulative potential

Not bioaccumulative. log Kow is not defined for a fully dissociating ionic compound; phosphorus and potassium are essential, homeostatically regulated nutrients [S10].

12.4 Mobility in soil

High water solubility makes dissolved phosphate mobile in soil water and run-off, although fixation by Ca/Fe/Al limits leaching in many soils. Avoid bulk losses to surface water (see 12.7).

12.5 Results of PBT and vPvB assessment

Not PBT, not vPvB [S4][S5]. The new CLP classes PBT (EUH440) and vPvB (EUH441) under Delegated Regulation (EU) 2023/707 do not apply [S11].

12.6 Endocrine disrupting properties

No evidence of endocrine-disrupting properties for the environment; ED ENV 1/2 (EUH430 / EUH431) do not apply [S7][S10][S11].

12.7 Other adverse effects

- Eutrophication: phosphate is the limiting nutrient in many freshwaters. Bulk discharge can cause algal blooms and subsequent oxygen depletion. Prevent entry into sewers and public waters [S7].
- German water hazard class WGK 1 (slightly hazardous to water), ID No. 8173 [S7] - a national water-protection classification, not a CLP classification.
- PMT / vPvM: high mobility but the toxicity criterion is not met, therefore EUH450 / EUH451 do not apply [S11].
- No ozone-depletion potential, no photochemical ozone creation potential, no known endocrine or chronic aquatic effects at relevant concentrations.

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

- Product: this substance is not a hazardous waste under the CLP-based EU hazardous-waste criteria. Uncontaminated material should preferably be recovered and reused as fertiliser, or recycled into phosphate production.
- Contaminated material: dispose of in a safe manner in accordance with local/national regulations; use an approved waste contractor. Do not discharge to drains or surface water.
- Packaging: empty bags should be completely emptied, then recycled or disposed of according to national packaging rules. A third-party SDS recommends a hazardous/special-waste collection point for containers that are not empty [S7]; verify the applicable national rule.
- Waste code (EWC / LoW): assign the correct national code for the actual waste stream - for fertiliser/agrochemical residues this is often chapter 02 01 or 06 03 depending on origin. [TBC] confirm with the waste contractor; no code is asserted here.
- Dilute aqueous residues may, where lawful, be used as a nutrient solution in fertigation rather than discarded.

14 TRANSPORT INFORMATION

14.1 - 14.5 Transport classification

Item	ADR (road)	RID (rail)	ADN (inland waterway)	IMDG (sea)	IATA (air)
14.1 UN number or ID number	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2 UN proper shipping name	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3 Transport hazard class(es)	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4 Packing group	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5 Environmental hazards	None	None	None	Not a marine pollutant	None

Consistent conclusion across all five modes [S7][S9][S13]: not dangerous goods. No UN 3082 / Class 9 assignment applies; do not copy the marine pollutant marking used for pesticide formulations.

14.6 Special precautions for user

Protect packages from rain and moisture, prevent bag rupture and dust release, and segregate from incompatible materials, food and feed during transport. Carry this SDS with the consignment. Some carriers request a written non-hazardous-goods declaration for bulk fertiliser shipments [TBC].

14.7 Maritime transport in bulk according to IMO instruments

Not applicable. The product is supplied in 25 kg bags [S2], not in bulk; if a future bulk solid cargo is planned, check the IMSBC Code (group C - non-hazardous, non-liquefiable solids) before shipment [TBC].

15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1 EU regulations [S3][S7][S11]:

Instrument	Status for CAS 7778-77-0
Reg. (EC) No 1272/2008 (CLP), Annex VI	No harmonised classification entry; substance not classified
Reg. (EU) 2023/707 (new hazard classes)	Assessed: ED HH/ENV, PBT, vPvB, PMT, vPvM - none applies. Transitional period for substances already on the market ended 1 Nov 2026
REACH (EC) No 1907/2006, Annex XVII (restrictions)	Not listed
REACH Annex XIV (authorisation list)	Not listed
REACH SVHC Candidate List	Not listed
Reg. (EU) No 649/2012 (PIC, prior informed consent)	Not listed

Instrument	Status for CAS 7778-77-0
Reg. (EU) 2019/1021 (POPs)	Not listed
Reg. (EC) No 1005/2009 (ozone-depleting substances)	Not listed
Reg. (EU) 2019/1148 (explosives precursors)	Not listed
Reg. (EC) No 273/2004 (drug precursors)	Not listed
CLP Article 45 / Annex VIII (poison-centre notification, UFI)	Not applicable - not a hazardous mixture
Seveso III / German 12. BImSchV	Not subject [S7]
Reg. (EU) 2019/1009 (EU fertilising products)	Applies if the product is placed on the EU market as a CE-marked fertilising product; MKP is a compound inorganic macronutrient fertiliser providing P and K. Confirm conformity assessment, nutrient declaration and contaminant limits (including cadmium) separately [S16] [TBC]
Reg. (EC) No 1333/2008 + (EU) No 231/2012	E 340(i) monopotassium phosphate is an authorised food additive; this SDS does not certify food-grade purity. Applies only to certified lots [S15]
Reg. (EC) No 1831/2003 (feed additives)	Check if supplied for feed use [TBC]

15.1.2 National regulations [S7][S12]:

- Germany: water hazard class WGK 1 (slightly hazardous to water), VwVwS Annex 3, ID No. 8173; not subject to the 12. BImSchV Hazardous Incident Ordinance.
- Switzerland: storage class LK 'NG - Non-hazardous'.
- Netherlands: not listed on the SZW lists of carcinogenic, mutagenic or reprotoxic substances.
- China: not listed in the Catalogue of Hazardous Chemicals (2015, as adjusted 2022), nor in the explosive-precursor, key-supervised or priority environmental-management chemical lists; listed in the IECSC (2013). Product standard HG/T 2321-2016; SDS compilation per GB/T 16483-2008, GB/T 17519-2013 and the GB 30000 series [S12]. A Chinese-language SDS for domestic supply is a separate deliverable.
- United States / other destinations: confirm TSCA inventory status and any state-level fertiliser registration or nutrient-management rules separately [TBC].

15.2 Chemical safety assessment

A Chemical Safety Report / exposure scenario for the product as supplied is not attached. For a non-hazardous substance an exposure scenario is normally not required [S4]; the REACH registration dossier (tonnage band > 100 tpa [S3]) may contain a CSA that the Only Representative can make available. Confirm with the OR whether a CSR or exposure scenario must be communicated for the intended use [TBC].

16 OTHER INFORMATION

16.1 Indication of changes

Version 0.1, 09 November 2026: first issue. New document for Monopotassium Phosphate (MKP) 00-52-34. Includes an explicit assessment against the new CLP hazard classes introduced by Delegated Regulation (EU) 2023/707, whose transitional period for substances already on the market ended 1 November 2026.

16.2 Abbreviations and acronyms

ADN / ADR / RID / IMDG / IATA	European inland waterway / road / rail and international maritime / air dangerous goods codes
ATE / LD50 / LC50 / EC50 / NOAEL	Acute toxicity estimate / median lethal dose / median lethal concentration / median effect concentration / no observed adverse effect level
CLP / REACH / SDS / UFI	Classification, Labelling and Packaging / Registration, Evaluation, Authorisation and Restriction of Chemicals / Safety Data Sheet / Unique Formula Identifier
CMR / STOT / PBT / vPvB / ED	Carcinogenic, mutagenic, reprotoxic / specific target organ toxicity / persistent, bioaccumulative and toxic / very persistent and very bioaccumulative / endocrine disruptor
DNEL / PNEC / OEL / WGK	Derived no-effect level / predicted no-effect concentration / occupational exposure limit / German water hazard class
E 340(i) / INS 340(i) / MKP	EU food additive number / international numbering system code / monopotassium phosphate
FACT / FACT-SEC / INFERENCE / LOW / [TBC]	Confidence tags used in Appendix A: primary data / official data verified through a compliant third-party SDS / derived by applying a rule / unverified secondary source / to be confirmed

16.3 Key literature and data references

- S1 Bosman in-house Certificate of Analysis, 'MKP 00-52-34' - Batch 20180310 (10 Mar 2018, PDF) and Batch 20201125 (25 Nov 2020, DOCX); held in PRODUCTS/mkp/
- S2 Sichuan Shucan Chemical Co., Ltd. Certificate of Analysis, Monopotassium Phosphate - No. SCMKP/TG24092701, produced 27 Sep 2024, analysed 28 Sep 2024; standard HG/T 2321-2016; 25 kg/bag
- S3 ECHA / REACH identifiers for potassium dihydrogenorthophosphate - CAS 7778-77-0; EC 231-913-4; REACH 01-2119490224-41-xxxx; tonnage band >100 tpa; no Annex VI harmonised classification (Index No. blank); regulatory pool 6 'no further action needed at EU level'; identifiers corroborated by [S4][S5][S6][S9]
- S4 Shell Chemicals Europe B.V. / DCMR SDS 'Potassium Dihydrogen Ortho Phosphate' - Version 1.1 RD, revision 28 Mar 2022, CLP SDS
- S5 Carl Roth GmbH SDS 'Potassium dihydrogen phosphate ROTIMETIC 99.99%' - Art. 1L6N, compiled 10 Mar 2025, according to REACH 1907/2006 as amended by (EU) 2020/878
- S6 Avantor / VWR SDS 'Potassium dihydrogen phosphate AR (ACS)' - Product 7100; REACH No. 01-2119490224-41-0064; EC 231-913-4
- S7 Duchefa Biochemie B.V. SDS 'Potassium dihydrogenphosphate cryst.' P0574 - Revision 10 Aug 2023, REACH 1907/2006 amended by (EU) 2020/878, 9 pages
- S8 Carl Roth structured substance data (NextSDS record 281331501294654) - Product code 3904; CAS 7778-77-0; EC 231-913-4
- S9 Sigma-Aldrich SDS P5655 'Potassium phosphate monobasic' - Version 3.10, revision 29 Sep 2017
- S10 EFSA FAF Panel, re-evaluation of phosphoric acid-phosphates (E 338-341, E 343, E 450-452) as food additives - EFSA Journal 2019;17(6):5674, doi 10.2903/j.efsa.2019.5674; PMID 32626329 / PMC7009158
- S11 Commission Delegated Regulation (EU) 2023/707 and ECHA HelpNet CLP Handbook (May 2023, section 7) - OJ L 93, 31 Mar 2023; in force 20 Apr 2023; substances apply from 1 May 2025, transitional period for substances already on the market until 1 Nov 2026
- S12 Chinese regulatory inventory extract for CAS 7778-77-0 - Compiled SDS according to GB/T 16483-2008, GB/T 17519-2013 and GB 30000 series; product standard HG/T 2321-2016; China IECSC (2013) listed
- S13 Mubychem SDS 'Potassium Phosphate Monobasic', 03 Dec 2020 - Commercial SDS; also lists HNOC 'mild skin/eye irritation' and voluntary P-statements while stating not hazardous
- S14 Chinese encyclopaedic entry for monopotassium phosphate - Quotes rat oral LD50 4640 mg/kg, rabbit dermal >4640 mg/kg, melting 252.6 C, density 2.338 g/mL at 25 C, water solubility 222 g/L (20 C) / 22.6 g per 100 mL, pH 4.2-4.6 (20 g/L)
- S15 FAO/WHO JECFA and EU food additive legislation for phosphates - INS 340(i) monopotassium phosphate; Regulation (EC) No 1333/2008 Annex II/III; purity criteria Commission Regulation (EU) No 231/2012
- S16 Regulation (EU) 2019/1009 on EU fertilising products - PFC 1(C)(I) inorganic macronutrient fertiliser; applies to fertiliser placed on the EU market with CE marking

16.4 Training advice and recommended restrictions of use

Train personnel in dust-minimising handling, spill containment, the incompatibility of concentrated phosphate solutions with calcium/magnesium salts, and the eutrophication risk of uncontrolled release. Do not use the product for purposes outside Section 1.2.

16.5 Disclaimer and issue conditions

This SDS was compiled from the supplier's own Certificates of Analysis, current REACH/CLP legislation and multiple 2020/878-compliant third-party SDS. It is issued as a DRAFT for technical review. Values marked [TBC] are not verified; values marked LOW in Appendix A are secondary-source data used only for cross-reference. The 'not classified' conclusion and all first-party data must be reviewed and signed off by a competent person, and the destination country's regulatory status must be confirmed, before this document accompanies a commercial consignment. Hazard communication under CLP is distinct from product authorisation (fertiliser, food or feed).

APPENDIX A - CLASSIFICATION RATIONALE, DATA PROVENANCE AND OPEN ITEMS

This appendix is part of the technical dossier, not of the statutory 16 sections.

A.1 Why a full 16-section SDS for a non-hazardous substance

Product: Monopotassium Phosphate (MKP) 00-52-34, CAS 7778-77-0, a mono-constituent inorganic substance. Rule set: UN GHS (Rev. 9) 16-section format, Regulation (EC) No 1272/2008 (CLP) including Delegated Regulation (EU) 2023/707, and REACH Annex II as amended by Regulation (EU) 2020/878. Classification data are taken from the REACH registration as reflected in compliant third-party SDS [S3][S4][S5][S6][S7][S9] and from two supplier Certificates of Analysis [S1][S2].

- REACH Article 31 does NOT oblige the supplier to provide an SDS for a substance that is not classified as hazardous, is not PBT/vPvB and is not on the SVHC Candidate List. Export practice nevertheless normally requires one.
- Once an SDS is provided voluntarily, Article 31(1) and Annex II require the full 16-section structure and the mandatory sub-headings, with 'not applicable' or 'no data available' stated where appropriate. A shortened 'product information sheet' is not a compliant SDS.
- Adding invented H-statements (commonly H315/H319/H335) or a GHS07 pictogram to a non-classified substance is a compliance error. Voluntary hygiene P-statements must be clearly separated from statutory label elements.
- A non-hazardous mixture would additionally require assessment of EUH210 under CLP Annex II as amended by 2023/707; that route is not relevant here because this product is a single substance.
- Product: non-hazardous mono-constituent substance KH2PO4, CAS 7778-77-0; not a mixture and not a plant protection product. No CLP classification applies [S3][S4][S5][S7].
- Grade: fertiliser-grade MKP 00-52-34, purity >=98% w/w, based on two in-house / supplier CoAs [S1][S2]. Exact commercial grade (fertiliser / food / feed / reagent) is [TBC] and governs Section 15.
- An SDS is supplied voluntarily for export documentation: REACH Art. 31 does not oblige it for a non-hazardous substance, but Annex II requires the full 16-section structure once an SDS is provided.
- Impurity levels from [S2] (As 0.003%, Pb 0.003%, F 0.004%) are far below the 0.1% generic concentration limits and are not intentionally added; they do not change the classification. Confirm with the current batch CoA before issue [TBC].
- The REACH registration tail number and the identity of the EU Only Representative are [TBC]; the leading digits 01-2119490224-41 are consistent across [S3][S6][S8].

A.2 Negative classification determination, criterion by criterion

Hazard / endpoint	Method + input	Result and cross-check	Confidence
Physical hazards (all classes)	CLP Annex I, parts 2.1-2.17; screening against available data. Non-combustible [S5][S8]; flash point not applicable [S8]; no explosive limits [S7]; inorganic fully oxidised phosphate salt, no oxidising, self-heating, pyrophoric or water-reactive functionality	No physical hazard class is met. Not classified. Fine organic-free inorganic dust is not normally a combustible dust, but if the product is milled or blended with organics, determine Kst/MIE for the finished powder [TBC].	INFERENCE (rule applied to FACT data)
Acute toxicity, oral / dermal / inhalation	CLP Annex I 3.1.1: Category 4 starts at ATE <= 2000 mg/kg (oral, dermal) or <= 5.0 mg/L (dust/mist, inhalation). LD50 oral rat > 2000 mg/kg; LD50 dermal rat > 2000 mg/kg (OECD 402); LC50 inhalation rat > 0.83 mg/L (OECD 403) [S7]; REACH-based SDS concludes 'Not classified' for all three routes [S7]	Oral and dermal: above the Category 4 cut-off => not classified. Inhalation: not classified in the registration dossier [S7]; the quoted '> 0.83 mg/L' is a limit value, not a full LC50. If a respirable fine fraction is produced, obtain the full GLC inhalation study: an LC50 in the 1.0-5.0 mg/L band would trigger Acute Tox. 4 (H332). This is the least certain of the negative determinations [TBC].	FACT-SEC + INFERENCE / inhalation requires review
Skin corrosion/irritation, serious eye damage/irritation	CLP Annex I 3.2 / 3.3; pH extreme criterion (pH <= 2 or >= 11.5). pH approx. 4.4 (1% and 50 g/L aqueous solutions) [S2][S7]; both endpoints recorded 'Not classified' in [S7]; commercial SDSs describe at most mild, mechanical dust irritation [S13]	Mildly acidic, nowhere near an extreme pH; no corrosion or Category 2 irritation classification. Not classified. Do not copy H315/H319 from third-party SDS that add them as 'HNOC' or voluntary hygiene advice - those are not CLP classifications for this substance.	INFERENCE (rule applied to FACT data)
Sensitisation, mutagenicity, carcinogenicity, reproductive toxicity, STOT	CLP Annex I 3.4-3.11; weight of evidence. All endpoints 'Not classified' in [S7]; EFSA found no genotoxicity or carcinogenicity concern and no developmental toxicity effects for phosphates [S10]; IARC/NTP/OSHA/ACGIH listings absent [S13]; NOAEL oral rat 90-day (OECD 422) = 1000 mg/kg bw/day [S7]	No classification. No CMR, no STOT SE/RE, no aspiration hazard. High chronic phosphate intake affects kidney function; EFSA group ADI 40 mg P/kg bw/day does not apply to people with moderate/severe renal impairment [S10]. This is a dietary, not a CLP, concern.	FACT-SEC
Hazardous to the aquatic environment, acute / chronic	CLP Annex I 4.1.3; acute Category 1 threshold L(E)C50 <= 1 mg/L. LC50 fish (Oncorhynchus mykiss) > 100 mg/L; EC50 48 h Daphnia magna > 100 mg/L; EC50 72 h algae (Desmodesmus subspicatus) > 100 mg/L [S7]	All three endpoints exceed 100 mg/L, i.e. >100x above the Category 1 cut-off; not rapidly degradable criteria and bioaccumulation do not apply to a dissociating inorganic salt. Not classified. Not classified does NOT mean 'no environmental effect': phosphate is a nutrient and bulk release causes eutrophication. See Sections 6, 12.7, 13 and the WGK 1 entry in Section 15.	FACT-SEC + INFERENCE
Composition / impurity driven classification	CLP Annex I 1.1 and generic concentration limits (typically 0.1% for CMR/ED, 1% for sensitisation, 10% for irritation). Mono-constituent substance >= 98% KH2PO4 [S1][S2]; impurities As 0.003%, Pb 0.003%, F 0.004%, water-insoluble 0.07%, moisture 0.12% [S2]; no Annex VI harmonised entry; ATE/SCL/M-factor = none [S6]	Every impurity is 1-2 orders of magnitude below the lowest applicable generic concentration limit, and none is intentionally added. No classification is inherited. Re-check against the current batch CoA; a different source or a blended/fortified product would require a fresh assessment [TBC].	INFERENCE (rule applied to FACT data)
New CLP hazard classes - Delegated Regulation (EU) 2023/707	Assessment against ED HH 1/2, ED ENV 1/2, PBT, vPvB, PMT, vPvM. Inorganic nutrient salt, fully dissociating in water; no PBT/vPvB [S4][S5]; no endocrine-disrupting evidence [S7][S10]; low acute and repeated-dose toxicity, no CMR/STOT [S7][S10]; high water solubility and mobility	ED HH / ED ENV: no evidence, not classified. PBT / vPvB: the bioaccumulation criterion cannot be met by a fully dissociating inorganic salt. PMT / vPvM: mobility is high but the 'T' criterion is not met (no CMR/STOT, low toxicity). None of EUH380/381/430/431/440/441/450/451 applies. The transitional period for substances already on the market expired on 1 Nov 2026 [S11]; this SDS is dated after that date and therefore records the assessment explicitly rather than deferring it.	INFERENCE - competent-person sign-off required

Hazard / endpoint	Method + input	Result and cross-check	Confidence
Transport classification	ADR / RID / ADN / IMDG / IATA dangerous goods criteria. Not regulated in all five modes [S7][S9][S13]; no UN number, no class, no packing group; not a marine pollutant	Not dangerous goods. UN number / proper shipping name / class / packing group: not applicable. Some carriers request a written non-hazardous goods declaration for bulk fertiliser shipments; prepare one if required [TBC].	FACT-SEC

A.3 Data provenance and confidence levels

FACT = value traceable to a primary/official source or to the supplier's own file. FACT-SEC = official/REACH data verified through one or more compliant third-party SDS. INFERENCE = value derived by applying a CLP criterion to FACT inputs. LOW = unverified secondary source, used only for cross-reference and never as the sole basis for a classification. [TBC] = must be supplied by the manufacturer or competent person before issue.

ID	Confidence	Source	Used for
S1	FACT	Bosman in-house Certificate of Analysis, 'MKP 00-52-34' - Batch 20180310 (10 Mar 2018, PDF) and Batch 20201125 (25 Nov 2020, DOCX); held in PRODUCTS/mkp/	Section 1 product identity / grade, Section 3 purity and particle size, Section 9 appearance; first-party measured values.
S2	FACT	Sichuan Shucan Chemical Co., Ltd. Certificate of Analysis, Monopotassium Phosphate - No. SCMKP/TG24092701, produced 27 Sep 2024, analysed 28 Sep 2024; standard HG/T 2321-2016; 25 kg/bag	Sections 3 and 9: KH2PO4 99.1%, P2O5 52.1%, K2O 34.0%, pH(1%) 4.4, moisture 0.12%, water-insoluble 0.07%, F 0.004%, As 0.003%, Pb 0.003%.
S3	FACT-SEC	ECHA / REACH identifiers for potassium dihydrogenorthophosphate - CAS 7778-77-0; EC 231-913-4; REACH 01-2119490224-41-xxxx; tonnage band >100 tpa; no Annex VI harmonised classification (Index No. blank); regulatory pool 6 'no further action needed at EU level'; identifiers corroborated by [S4][S5][S6][S9]	Sections 1, 2, 3 and 15: substance identity, absence of a harmonised classification, regulatory status. Note: identifiers were cross-checked against several 2020/878-compliant SDS rather than read directly from the ECHA database; verify the registration tail number with your Only Representative before issue [TBC].
S4	FACT	Shell Chemicals Europe B.V. / DCMR SDS 'Potassium Dihydrogen Ortho Phosphate' - Version 1.1 RD, revision 28 Mar 2022, CLP SDS	Sections 2, 4, 15 and 16: explicit 'does not meet the classification criteria', no pictogram / signal word / H / P statements, no PBT/vPvB, no exposure scenario required.
S5	FACT	Carl Roth GmbH SDS 'Potassium dihydrogen phosphate ROTIMETIC 99.99%' - Art. 1L6N, compiled 10 Mar 2025, according to REACH 1907/2006 as amended by (EU) 2020/878	Section 2 ('does not meet the criteria for classification'), Section 5 (non-combustible, phosphorus oxides), Sections 8 and 10.
S6	FACT	Avantor / VWR SDS 'Potassium dihydrogen phosphate AR (ACS)' - Product 7100; REACH No. 01-2119490224-41-0064; EC 231-913-4	Section 2 ('not hazardous'), Section 3 (ATE/SCL/M-factor: none), Section 5 decomposition products.
S7	FACT	Duchefa Biochemie B.V. SDS 'Potassium dihydrogenphosphate cryst.' P0574 - Revision 10 Aug 2023, REACH 1907/2006 amended by (EU) 2020/878, 9 pages	Sections 8, 9, 11, 12, 14 and 15: DNEL values, LD50/LC50/NOAEL, all CLP hazard-class conclusions, three aquatic endpoints, transport 'not applicable' across ADR/IMDG/IATA/ADN/RID, WGK 1, EU regulatory inventories.
S8	FACT	Carl Roth structured substance data (NextSDS record 281331501294654) - Product code 3904; CAS 7778-77-0; EC 231-913-4	Section 9: pH 4.2-4.6 (20 g/L, 20 C), melting point 253 C with slow decomposition, density 2.34 g/cm3, bulk density 500-1200 kg/m3, water solubility 208 g/L at 20 C, non-flammable, flash point not applicable.
S9	FACT	Sigma-Aldrich SDS P5655 'Potassium phosphate monobasic' - Version 3.10, revision 29 Sep 2017	Section 2 ('Not a hazardous substance or mixture'), Section 7 combustible dust consideration on further processing, Section 8 no OEL, Section 14 not regulated.
S10	FACT	EFSA FAF Panel, re-evaluation of phosphoric acid-phosphates (E 338-341, E 343, E 450-452) as food additives - EFSA Journal 2019;17(6):5674, doi 10.2903/j.efsa.2019.5674; PMID 32626329 / PMC7009158	Section 11: low acute oral toxicity, no genotoxicity/carcinogenicity concern, no developmental toxicity effects, group ADI 40 mg P/kg bw/day; JECFA MTDI 70 mg P/kg bw/day; ADI not applicable to people with moderate to severe reduction in kidney function.

ID	Confidence	Source	Used for
S11	FACT	Commission Delegated Regulation (EU) 2023/707 and ECHA HelpNet CLP Handbook (May 2023, section 7) - OJ L 93, 31 Mar 2023; in force 20 Apr 2023; substances apply from 1 May 2025, transitional period for substances already on the market until 1 Nov 2026	Sections 2.1, 2.3, 11.2, 12.5 and 12.6: assessment against the new hazard classes ED HH 1/2 (EUH380/381), ED ENV 1/2 (EUH430/431), PBT/vPvB (EUH440/441), PMT/vPvM (EUH450/451).
S12	FACT-SEC	Chinese regulatory inventory extract for CAS 7778-77-0 - Compiled SDS according to GB/T 16483-2008, GB/T 17519-2013 and GB 30000 series; product standard HG/T 2321-2016; China IECSC (2013) listed	Section 15 and the Chinese companion note: not listed in the Catalogue of Hazardous Chemicals (2015), nor in the explosive-precursor, key-supervised or priority-environmental-chemical lists.
S13	LOW	Mubychem SDS 'Potassium Phosphate Monobasic', 03 Dec 2020 - Commercial SDS; also lists HNOC 'mild skin/eye irritation' and voluntary P-statements while stating not hazardous	Cross-reference only for LD50 dermal rabbit >4640 mg/kg and for illustrating the widespread practice of adding voluntary P-statements. Not used as the basis for any classification.
S14	LOW	Chinese encyclopaedic entry for monopotassium phosphate - Quotes rat oral LD50 4640 mg/kg, rabbit dermal >4640 mg/kg, melting 252.6 C, density 2.338 g/mL at 25 C, water solubility 222 g/L (20 C) / 22.6 g per 100 mL, pH 4.2-4.6 (20 g/L)	Section 9 cross-check of literature values only. Conflicts with the REACH-based LD50 >2000 mg/kg [S7] are disclosed rather than concealed; no classification is derived from this source.
S15	FACT	FAO/WHO JECFA and EU food additive legislation for phosphates - INS 340(i) monopotassium phosphate; Regulation (EC) No 1333/2008 Annex II/III; purity criteria Commission Regulation (EU) No 231/2012	Sections 1.2 and 15: food-additive use is conditional on the grade meeting the E 340(i) purity specification.
S16	FACT	Regulation (EU) 2019/1009 on EU fertilising products - PFC 1(C)(I) inorganic macronutrient fertiliser; applies to fertiliser placed on the EU market with CE marking	Sections 1.2 and 15: fertiliser-market regulatory frame, distinct from CLP hazard communication.

A.4 Open items before the SDS can be issued

- Confirm the exact Bosman legal entity, full address, telephone, e-mail and a genuine 24 h emergency number for Sections 1.3 / 1.4; identify the competent person responsible for the SDS.
- Assign the official Bosman SDS number, version and issue date; replace all [TBC] markers and obtain competent-person sign-off on the 'not classified' conclusion.
- Confirm the commercial grade (fertiliser / food E 340(i) / feed / reagent) and the intended destination markets. This determines Section 15 (Reg. (EU) 2019/1009 CE fertiliser, Reg. (EC) 1333/2008 + (EU) 231/2012 food additive, Reg. (EC) 1831/2003 feed additive) and whether a country-specific SDS is needed.
- Obtain the complete REACH registration number (tail digits) and the name/letter of the EU Only Representative or importer; the leading digits 01-2119490224-41 are consistent but the full number is [TBC].
- Provide a current batch CoA (not the 2018/2020/2024 archived copies) to confirm purity and impurity levels, especially As, Pb, F and heavy metals, for Section 3.
- Provide measured Section 9 data for the actual commercial product: bulk density, particle-size distribution, dustiness, pH at a defined concentration, and water solubility. Published solubility values differ (208 g/L, 222 g/L, 22.6 g per 100 mL) because the reporting basis differs; state the method used.
- If the product is milled, granulated or blended, obtain dust explosibility testing (Kst, MIE) and a full GLP acute inhalation study; the inhalation negative determination rests on a limit value > 0.83 mg/L [S7].
- Confirm whether a Chemical Safety Report / exposure scenario needs to be attached for the intended tonnage and use (Section 15.2). For a non-hazardous substance an exposure scenario is normally not required [S4].
- If the product is destined for food, feed or pharmaceutical use, supply the corresponding purity certification and allergen/GMO statements separately; these are outside the scope of a CLP SDS.
- Decide whether voluntary hygiene P-statements (Section 2.2) should appear on the commercial label. They are not CLP label elements and must not be presented as such.

A.5 Jurisdictional differences to resolve

- EU: not classified under CLP; if sold as a fertiliser, Regulation (EU) 2019/1009 (CE marking, nutrient declaration, contaminant limits) applies in parallel. CLP compliance is hazard communication, not product authorisation [S16].
- EU, 2023/707: the transitional period for substances already placed on the market before 1 May 2025 expired on 1 November 2026. This SDS is dated 9 November 2026 and therefore records an explicit ED / PBT / vPvB / PMT / vPvM assessment rather than relying on the transition [S11].
- China: CAS 7778-77-0 is not in the Catalogue of Hazardous Chemicals (2015, 2022 adjustment). A domestic SDS would be compiled per GB/T 16483-2008 and GB/T 17519-2013 with GB 30000.x classification, and labelled per GB 15258; product quality follows HG/T 2321-2016 [S12].
- United States: OSHA HCS 2024 and TSCA inventory status must be checked separately; a CLP SDS is not automatically an OSHA SDS [TBC].
- Food / feed uses: E 340(i) status under Regulation (EC) No 1333/2008 with purity criteria in (EU) No 231/2012 requires lot-specific certification; a fertiliser-grade CoA is not sufficient [S15].

A.6 Errors commonly seen in commercial MKP SDS, and how this draft avoids them

- Adding H315 / H319 / H335 or a GHS07 pictogram to a substance whose REACH dossier records 'Not classified' for every endpoint. Avoided: Section 2.1 states 'not classified' and Section 2.2 lists no label elements.
- Confusing 'mild dust irritation' (a hazard not otherwise classified / good-practice advice) with a CLP Skin Irrit. 2 or Eye Irrit. 2 classification. Avoided: the two are explicitly separated in Section 2.2 and 2.3.
- Assigning EUH401 ('follow the instructions for use to avoid risks to human health and the environment') because the supplier is an agrochemical company. EUH401 applies to plant protection products; MKP is a fertiliser. Avoided: Section 2.2 states EUH401 does not apply.
- Treating P2O5 52% and K2O 34% as two separate ingredients and declaring a mixture. They are oxide-equivalent expressions of the same single substance. Avoided: Section 3.1 declares a mono-constituent substance.
- Reporting a log Kow, a biodegradation percentage or a BCF for a fully dissociating inorganic salt. Avoided: Sections 9.1, 12.2 and 12.3 state 'not applicable' with the chemical reason.
- Declaring the substance 'harmless to the environment' on the basis of L(E)C50 > 100 mg/L, while ignoring that phosphate is a eutrophying nutrient and is WGK 1 in Germany. Avoided: Sections 2.3, 6.2, 12.7 and 15.
- Copying UN 3082 / Class 9 / marine pollutant from a pesticide-formulation template. Avoided: Section 14 records 'not regulated' in all five modes.
- Mixing solubility units (208 g/L, 222 g/L, 22.6 g per 100 mL) without disclosing the different reporting basis, or printing an incorrect bulk density unit (500-1200 g/cm3). Avoided and flagged in Section 9.1.
- Omitting the new 2023/707 hazard-class assessment even though the substance transition deadline has passed. Avoided: Sections 2.1, 2.3, 11.2, 12.5, 12.6, 15.1 and A.2.