

Potassium Ethyl Xanthate (KEX)

1. Identification

Product	Potassium Ethyl Xanthate (KEX)
CAS / EC	140-89-6 / 205-439-3
Use	Xanthate collector for qualified sulfide-ore flotation circuits.
Uses advised against	Unassessed consumer, medical or other applications outside the qualified grade and intended use.
Supplier	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Address	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Contact	+86-21-54265599 sales@zxchem.com.cn www.zxchem.com
Emergency contact	+86-21-54265599; office hours, China time UTC+8. For an urgent incident, contact local emergency services.
Scope	Reference safety information for Potassium Ethyl Xanthate (KEX). The reference composition, concentration and supply-grade differences are described in Section 3. This document does not certify the composition or transport status of a specific delivered batch or a different formulation.

2. Hazard identification

Classification	Flammable solid ¹ ; acute oral/inhalation toxicity ⁴ ; skin irritation ² ; eye irritation ^{2A} ; STOT single exposure ³ , respiratory tract; aquatic acute ³ .
Signal word	Danger
Pictograms	GHS02, GHS07
Hazard statements	H228: Flammable solid. H302: Harmful if swallowed. H332: Harmful if inhaled. H315: Causes skin irritation. H319: Causes serious eye irritation. H335: May cause respiratory irritation. H402: Harmful to aquatic life.
Prevention	P264: Wash exposed skin after handling. P280: Wear suitable protective gloves, clothing and eye protection. P260/P271: Avoid inhalation; use adequate ventilation and effective exposure controls. P270: Do not eat, drink or smoke when using this material. P273/P391: Avoid environmental release and collect spillage. P210/P240/P241: Prevent ignition; use appropriate bonding and electrical equipment where the risk assessment requires it.
Response	Follow the exposure-specific first-aid measures in Section 4. Remove contaminated clothing. Seek urgent advice for severe symptoms.
Storage / disposal	Keep closed under the conditions in Section 7. Dispose through an authorized waste route under local rules.
Other hazards	Dust, splashes, process conditions and decomposition can create exposure risks not represented by the commercial assay.
Additional physical hazard	In use, decomposition may create flammable vapor-air mixtures. The matched transport entry is Class4.2 self-heating/spontaneously combustible solid.



3. Composition/information on ingredients

Potassium Ethyl Xanthate (KEX) / component	140-89-6; EC 205-439-3
Supply concentration or grade	≥85.0%
Composition scope	Solid 97% potassium ethyl xanthate reference, entific2024-01-04, CAS 140-89-6. Commercial ≥85% xanthate, alkali and moisture/volatile limits are separate; residual constituents are not certified. DOT/IATA reference UN3342 Class 4.2 PG II is used as the reference transport entry, with actual consignment and maritime requirements to be verified.

4. First-aid measures

Eye contact	Rinse eyes immediately with water for at least 15 minutes; remove contact lenses when easily possible and continue rinsing. Seek medical attention if irritation persists.
Inhalation	Move to fresh air without exposing rescuers. Seek medical attention for persistent or developing symptoms.
Skin contact	Remove contaminated clothing and rinse thoroughly with water. Seek care if irritation or rash develops; wash clothing before reuse.
Ingestion	Rinse mouth if conscious; do not induce vomiting. Obtain immediate medical advice after swallowing. Never give anything by mouth to an unconscious person.
Symptoms	Harmful by ingestion or inhalation; irritates skin, eyes and airways.
Immediate treatment	Treat symptoms. Seek medical advice for persistent effects; protect rescuers against secondary exposure.

5. Fire-fighting measures

Media / specific hazards	Use dry chemical, carbon dioxide, appropriate foam or controlled water spray suitable for the incident. Avoid spreading powder. Thermal decomposition can release sulfur, carbon and potassium-containing fumes; responders need independent breathing air.
Protection	Use full protective equipment and self-contained breathing apparatus. Fight from a safe position; contain contaminated firewater and cool exposed containers when safe.

6. Accidental release measures

Personal / environmental precautions	Restrict entry, avoid exposure and prevent environmental release. Use the controls and protection in Section 8.
Containment / cleanup	Exclude unprotected personnel and collect the solid without creating airborne dust, using suitable tools and labeled waste containers. Prevent drain and waterway entry.
References	See Sections 7, 8 and 13 for handling, protection and disposal.

7. Handling and storage

Handling	Avoid contact and inhalation; maintain ventilation and good hygiene. Use suitable equipment and prevent chemical contamination.
Storage	Store tightly closed in a cool, dry, secure and ventilated place away from heat, sunlight, ignition sources, acids and strong oxidizers. Prevent moisture ingress and uncontrolled dust; maintain appropriate separation between stacks.
Incompatibilities	Keep cool, dry and away from ignition sources, strong oxidizers and acids. Prevent dust accumulation and moisture contamination. Xanthate decomposition can create flammable vapors; assess gas and solution handling within the plant procedure.
Specific end use	Xanthate collector for qualified sulfide-ore flotation circuits.

8. Exposure controls/personal protection

Control parameters	No supply-specific occupational exposure limit or DNEL/PNEC is established by this record. Apply local substance and particulate exposure limits where relevant.
Engineering and personal protection	Use closed transfer or local extraction. Provide an eyewash and safety shower. Wear chemical-resistant gloves selected for the actual exposure, protective clothing and splash goggles. For airborne dust, use a suitable approved respirator selected through a workplace risk assessment; emergency or unknown atmospheres require independent air supply.
Hygiene / environmental control	Wash after handling; separate contaminated clothing. Contain product and process effluent; do not eat or drink in handling areas.

9. Physical and chemical properties

Physical state / appearance	Pale-yellow to yellow free-flowing powder or pellets
Formula / formula weight	C3H5KOS2; 160.30 g/mol; component identity
Moisture and volatile matter	≤10.0 %
Water solubility	Soluble; no visible impurity legacy criterion
Odor / odor threshold	No supply-grade value provided.
Boiling / decomposition point	No supply-grade limit provided.
Flammability / flash point	No supply-grade test value provided; see fire and reactivity information in Sections 5 and 10.
Vapor pressure / density	No supply-grade value provided.
Partition coefficient / autoignition	No supply-grade value provided.

10. Stability and reactivity

Reactivity / stability / reactions	Keep cool, dry and away from ignition sources, strong oxidizers and acids. Prevent dust accumulation and moisture contamination. Xanthate decomposition can create flammable vapors; assess gas and solution handling within the plant procedure.
Conditions and materials to avoid	Follow the incompatible-material and storage requirements in Section 7.
Decomposition products	See Section 5. No normal-storage decomposition is indicated under the recommended conditions.

11. Toxicological information

Routes / effects	Harmful by ingestion or inhalation; irritates skin, eyes and airways. Reference oral LD50 rat 1700mg/kg is not a test on the industrial 85% grade. The source does not establish comprehensive delivered-grade chronic toxicity data.
Other endpoints	Supply-batch sensitization, mutagenicity, carcinogenicity, reproduction and repeated-dose testing has not been provided. This does not override the classifications and target organs listed in Section 2.
Mixture assessment	Reference-substance or component results are not delivered-batch analytical or toxicological results.

12. Ecological information

Aquatic toxicity / behavior	Harmful to aquatic life in the selected reference. Keep solids and solution residues out of waterways. No delivered-grade persistence, mobility or bioaccumulation test results are supplied.
Other environmental endpoints	Supply-batch PBT/vPvB, endocrine-disruption, persistence, degradation, mobility and bioaccumulation assessments have not been provided. Do not infer absence of effects from missing data.

13. Disposal considerations

Product and residues	Characterize waste under applicable local rules and use a licensed waste contractor. Do not discharge chemical residues or contaminated process water to drains.
Contaminated packaging	Do not reuse contaminated packaging for unrelated purposes. Handle retained material with the same protection as the product and use an authorized disposal or return route.

14. Transport information

DOT / road reference	UN 3342; XANTHATES; Class 4.2; packing group II
IMDG applicability	UN3342XANTHATES, Class4.2, PGII is the reference UN entry. Confirm applicable maritime classification, packing and shipment requirements; source Section14 directly establishes DOT/IATA only.
IATA	UN 3342; XANTHATES; Class 4.2; packing group II
Environmental hazards	No transport environmental-hazard designation in the matched reference.
Special precautions	Use authorized packaging, labels and trained personnel for the applicable mode. Quantity exemptions depend on the consignment and are not assumed.
Bulk transport	The packaged-product reference does not establish authorization for maritime bulk transport.
Scope	Transport entries apply to the reference identity, concentration and form described in Section 3. Changes in composition require reassessment.

15. Regulatory information

Classification framework	GHS/CLP reference classification is given for the material in Section 3. Local worker-protection, labeling, transport, environmental and end-use requirements apply.
Registration / use status	No supply-specific registration number, market authorization or end-use certification is established by this reference record.
Chemical safety assessment	No supply-formulation chemical safety assessment is supplied by ZXCHEM in this record.

16. Other information

Revision date	2026-10-13; initial ZXCHEM reference safety document, version 2026.1.
Abbreviations	ADR/RID: road/rail dangerous goods; IMDG: maritime dangerous goods; IATA: air dangerous goods; PG: packing group; LD50/LC50: median lethal dose/concentration; STOT: specific target organ toxicity.
Use of information	Use together with the grade TDS and a workplace assessment. Concentration, solvent, impurity or physical-form changes require applicable safety information.
Document scope	Reference safety information for the material and grade described in Sections 1 and 3. Different concentrations, solvents or formulations require the applicable safety information. This is not a batch analytical certificate.

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