

Braun

Braun Environmental, Inc.

355 S. Teller St., Suite 200, Lakewood, Colorado 80226

Office: 303-697-0950

Fax: 303-697-2140

March 9, 2021

SENT VIA EMAIL

Elliot Russell
Colorado Division of Reclamation, Mining and Safety (DRMS)
1313 Sherman, Room 215
Denver Colorado 80203

RE: Response to Adequacy Review #2, Technical Revision TR-01, Mineral Mountain Project, Permit M-2014-045

Dear Mr. Russell;

In your letter you stated:

7. In response to Adequacy Item #1, the Operator states the drums of xanthate have already been relocated off-site and are being stored in a manner as recommended by the manufacturer. Please provide the manufacturer's recommendations for storage and describe how it is currently being stored.

In response, I have attached the SDS sheet for xanthate from TCI America Company, and have excerpted the following from Section 7, Storage and Handling:

Precautions for safe handling:

Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing.

Conditions for safe storage, including any incompatibilities

Storage conditions:

Keep container tightly closed. Store in a cool and dark place. Store away from incompatible materials such as oxidizing agents. Light-sensitive

Packaging material:

Comply with laws.

Mr. Barker is storing and handling this chemical in the manner described above, out of light and away from oxidizing agents. The barrels are locked in a cargo trailer at a secure location on private property.

Let me know if you have any questions or need anything else.

Sincerely,
BRAUN ENVIRONMENTAL, INC.



C. A. Braun, P.E., CPG, REC
enc.
CAB/rl



TCI Chemicals (India) Pvt. Ltd.

SAFETY DATA SHEET

According to 1907/2006/EC, Article 31

Revision number: 1.1

Revision date: 10/09/2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: Potassium Ethylxanthate
Product code: E0194

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

Identified uses: Reagents.

1.3 Details of the supplier of the safety data sheet

Supplier:

TCI Chemicals (India) Pvt. Ltd.
Plot No. B-28, Phase II,
5th Cross Street, MEPZ-SEZ, Tambaram,
Chennai, Tamilnadu - 600045
India
Telephone: +91-44-2262 0909

1.4 Emergency telephone number: +91-44-2262 0909

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Acute toxicity (Oral)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

2.2 Label elements

Pictograms or hazard symbols



Signal word

Warning

Hazard statements

H302-Harmful if swallowed.
H315-Causes skin irritation.
H319-Causes serious eye irritation.

Precautionary statements

P270-Do not eat, drink or smoke when using this product.
P264-Wash hands and face thoroughly after handling.
P280-Wear protective gloves, eye protection.
P301+P312+P330-IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.
P302+P352+P332+P313+P362+P364-IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse.
P305+P351+P338+P337+P313-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

2.3 Other hazards

Dust explosion possible if in powder or granular form, mixed with air.

Results of PBT and vPvB assessment

PBT: Not applicable
vPvB: Not applicable

SECTION 3: Composition/information on ingredients

3.1 Substances

Components:	Potassium Ethylxanthate
Percent:	>95.0%(T)
CAS RN:	140-89-6
EC-No:	205-439-3
Synonyms:	Ethylxanthic Acid Potassium Salt , Potassium O-Ethyl Dithiocarbonate , Potassium Xanthogenate
Chemical Formula:	C ₃ H ₅ KOS ₂

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
Skin contact:	Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
Eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion:	Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
Protection of first-aiders:	A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

4.2 Most important symptoms and effects, both acute and delayed

No data available

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Dry chemical, foam, water spray, carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon monoxide, carbon dioxide etc

5.3 Advice for firefighters

Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so. When extinguishing fire, be sure to wear personal protective equipment

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc

6.2 Environmental precautions

Prevent product from entering drains

6.3 Methods and materials for containment and cleaning up

Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a cool and dark place. Store away from incompatible materials such as oxidizing agents.
Light-sensitive

7.3 Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

No data available

8.2 Exposure controls

Install a closed system or local exhaust as possible so that workers should not be exposed directly. Also install safety shower and eye bath.

Respiratory protection:

Dust respirator. Follow local and national regulations.

Hand protection:

Protective gloves.

Eye protection:

Safety glasses. A face-shield, if the situation requires.

Skin and body protection:

Protective clothing. Protective boots, if the situation requires.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state (20°C):	Solid
Form:	Crystal - Powder
Colour:	White - Pale yellow
Odour:	No data available
pH:	No data available
Melting point/freezing point:	210°C (dec.)
Boiling point/range:	No data available
Flash point:	No data available (Calculated value:>60°C)
Flammability or explosive limits:	
Lower:	No data available
Upper:	9.5%
Relative density:	No data available
Solubility(ies):	
[Water]	Very soluble
[Other solvents]	
Soluble:	Ethanol
Insoluble:	Ether
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Dynamic Viscosity:	No data available
Kinematic viscosity:	No data available

9.2 Other safety information No data available

SECTION 10: Stability and reactivity

10.1 Reactivity	No data available
10.2 Chemical stability	Stable under proper conditions.
10.3 Possibility of hazardous reactions	No special reactivity has been reported.
10.4 Conditions to avoid	Static discharge
10.5 Incompatible materials	Oxidizing agents, Strong acids, Strong bases, Diazonium salts
10.6 Hazardous decomposition products	Carbon monoxide, carbon dioxide etc

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute Toxicity:	ipr-mus LD50:>500 mg/kg orl-rat LD50:1700 mg/kg ivn-mus LD50:199 mg/kg orl-mus LD50:308 mg/kg
Skin corrosion/irritation:	
Serious eye damage/irritation:	
Germ cell mutagenicity:	
Carcinogenicity:	
Reproductive toxicity:	
RTECS Number:	FG1575000

*We judged that this product was not classified into Class 6.1 Toxic Substance of current edition of IATA Dangerous Goods Regulations (DGR) according to acute toxicity values and/or Quantitative Structure-Activity Relationship (QSAR).

SECTION 12: Ecological information

12.1 Toxicity	
Fish:	No data available
Crustacea:	No data available
Algae:	No data available
12.2 Persistence and degradability	No data available
12.3 Bioaccumulative potential	No data available
12.4 Mobility in soil	
Log Pow:	No data available
Soil adsorption (Koc):	No data available
Henry's Law (PaM ³ /mol):	No data available
12.5 Results of PBT and vPvB assessment	
PBT:	Not applicable
vPvB:	Not applicable
12.6 Other adverse effects	No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.	

SECTION 14: Transport information

14.1 UN number	Not listed
14.2 UN proper shipping name	
ADR/RID	Not listed
IMDG/IMO	Not listed
ICAO/IATA	Not listed
14.3 Transport hazard class(es)	
ADR/RID	Does not correspond to the classification standard of the United Nations
IMDG/IMO	Does not correspond to the classification standard of the United Nations
ICAO/IATA	Does not correspond to the classification standard of the United Nations
14.4 Packaging group	
ADR/RID	-
IMDG/IMO	-
ICAO/IATA	-
14.5 Environmental hazards	
Marine pollutant	-
14.6 Special precautions for user	No data available

This substance is not regulated by IATA/ICAO/ADR/RID/IMO/IMDG and is considered to be Non Hazardous for transport by Air/Rail/Road/Sea

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No.1907/2006	Not listed
15.2 Chemical safety assessment	A chemical safety assessment has not been carried out.

SECTION 16: Other information

Prepared by: TCI Chemicals (India) Pvt. Ltd.
Issue date: 10/09/2018

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority.

The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.



Response to Adequacy Review #2, Technical Revision TR-01, Mineral Mountain Project, Permit M-2014-045

Art Braun <braunenv@msn.com>

To: elliott.russell@state.co.us

Cc: lbarker@aumining.net

Tue, Mar 9, 2021 at 2:10 PM

Elliot,

I have attached a short letter response to your March 3, 2021 comment. I think we have the comment addressed, and rest easy that Mr. Barker is taking good care of the material and has it safely stored. Let me know if you have anything else on this one.

As you and I have discussed, once we have this one behind us, I will begin on the amendment to the mining plan. When I start, I will visit with you again to make sure both of us are thinking in the same direction.

Art



210309 Response to Second DRMS Comments.pdf

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