



COLORADO
**Division of Reclamation,
Mining and Safety**
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

July 2, 2021

Brian Briggs
Ouray Silver Mine, Inc.
PO Box 564
Ouray, CO 81427

RE: Revenue Mine, Permit No. M-2012-032, Technical Revision (TR-14) Approval, Commitments and Inspection Schedule

Dear Mr. Briggs:

On July 2, 2021 the Division of Reclamation, Mining, and Safety (Division) **approved** the Technical Revision request (TR-4) submitted on April 16, 2021, addressing the following:

Environmental Protection Facility (EPF) certification plan for the Reagent Room portion of the previously approved mill filter building extension, permitted under TR-09.

Construction of the Reagent Room as proposed in TR-14 and its supplemental documentation may now commence.

Throughout the course of the review of TR-14, the Division has identified the following phases of construction, which include the critical inspection points to be completed by the Division. Notification of completion of the current construction phase and request for inspection shall be provided to the Division at least 72 hours prior to the requested inspection, and can be sent via email. QA/QC documentation including the running table for the completed phase shall be provided to the Division at the time of request for inspection.

<u>Phase/Task</u>	<u>Areas / Items to be inspected (includes but is not limited to)</u>
1 Existing construction / disturbance	All existing disturbances, including excavation, concrete and any other construction improvements completed prior to this revision approval with regards to the Reagent Room.
2 Remaining excavations, concrete prep work	Excavations to bedrock, compacted soils, forms, rebar/reinforcements for footers, slabs or curbing. *If multiple pours/reinforcements are required, inspections between each subsequent pour may be required.
3 Building Erection (Concrete Work)	Concrete flat work, partition walls, exterior walls, verification of sealant between pours for partitions, walls or secondary containment structures.



4 Building Erection (Structural Steel)	Steel superstructure, construction joints (bolts), sheeting.
5 Secondary Containment	All secondary containment structures including enclosed rooms, with epoxy coatings.
6 Equipment Installation	All tanks, storage racks, piping, delivery lines, sump systems.
7 Final	Completed construction inspection. Final sign off of all QA/QC tasks. Energizing of lines, equipment testing, pressure tests of lines and any final checks that are done after the equipment is installed.

*additional inspections may be required if the entirety of each phase cannot be completed within one inspection.

Upon completion of construction, certified inspections and submittal of all QA/QC documentation including as-built certifications the Division will issue an EPF Certification for the facilities proposed under TR-14. Please note that no chemicals may be imported, stored or used on site until such time as the EPF has been certified by the Division.

Also, throughout the application and review process of TR-14, commitments were made by OSMI that are now incorporated into the permit file. Those commitments are;

- 1. EPF Certification and QA/QC:** Notification of completion of the current construction phase and request for inspection shall be provided to the Division at least 72 hours prior to the requested inspection, and can be sent via email. QA/QC documentation including the running table for the completed phase shall be provided to the Division at the time of request for inspection.
 - a. Provide all QA/QC documentation including change orders or alteration documentation for each respective phase of construction as it is completed. These should be provided in addition to the as built drawings and certifications for the components it applies to.
 - b. During the submittal of the as-built certifications of the reagent room, the final drawings of the building will identify the location of the septic tank leach field.
- 2. Chemical Handling:** The Division has evaluated the specific chemicals listed in Table 4 (enclosed). All necessary information under Rule 6.4.21(5) has been provided and the Division is approving the use of the chemicals (these chemicals are manufacturer specific).
 - a. If an approved alternative is being switched out, written notification and acknowledgement of the change in chemical use will be required prior to the change being implemented. Please note that this notification should be submitted under a separate cover.

- b. For any new chemicals that may be used as a substitution that are not included in Table 4, so long as the chemical is comparable to what is already approved, a written notification along with the SDS of the proposed chemical must be submitted to the Division prior to use. Acceptance or denial of the substitution will be provided by the Division within 14 days. If the chemical is different in its makeup that substitution would need to be addressed through the Division's Technical Revision Process.
 - c. OSMI has committed to removing designated chemicals within 30 days of the date of approval of Temporary Cessation.
 - d. OSMI has committed to storing containers on secondary containment for containers with liquid chemicals that are to be returned to the manufacturer or are awaiting results of waste determination testing.
3. **Quarterly Milling Report:** OSMI will submit a Quarterly Milling Report that includes tons of ore processed, volumes of chemicals used to process the ore and a balance sheet describing what chemicals have been shipped to the site, consumed during milling operations and containers or chemicals disposed of. Said report will be due within 30 days of the end of the previous quarter.
- a. Q1 (January 1 to March 31) is due by April 30;
 - b. Q2 (April 1 to June 30) is due by July 30;
 - c. Q3 (July 1 to September 30) is due by October 30;
 - d. Q4 (October 1 to December 31) is due by January 30.

At this time the Division is not certifying the mill for long term storage of additional reagent chemicals. OSMI has committed that chemicals to be located within the mill shall be for short-term temporary storage during times of maintenance or housekeeping within the reagent room.

- a. No more than two different reagents shall be stored within the mill at any given time;
- b. The total volume of reagents stored in the mill building shall go towards the site total maximums to be stored on site.

The terms of the TR-4 approved by the Division are hereby incorporated into Permit No. M-2012-032. All other conditions and requirements of the permit remain in full force and effect.

If you require additional information, or have questions or concerns, please feel free to contact me. Lucas West at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 303-866-3567 Ext 8187 or via email at lucas.west@state.co.us.

Sincerely,



Lucas West
Environmental Protection Specialist

Brian Briggs
OSMI
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Enclosures: Table 4 - Reagent List

Cc: Travis Marshall, Senior EPS, Grand Junction DRMS

Reagent	Manufacturer	Purpose of use	Alt Names	Human Health §2: SDS HCS 2012 (29CFR 1910.1200)	Environmental Impacts §12: SDS	PPE §8: SDS	NFPA - Classification §16 SDS	EPA List of Lists §12 SDS	Corrosivity	Incompatible Materials
AeroFloat 242 Promoter	Solvay (distributor for Cytec Industries Inc.)	This is the ammonium salt of AEROFLOAT 31 promoter. Widely used for flotation of Pb from Pb/Zn ores and Cu/Pb from Cu/Pb/Zn ores. Improves Ag recovery from these ores.	NA	<div> <div>Acute toxicity, Category 4 →</div> <div>Acute toxicity, Category 3 →</div> <div>Skin Corrosion, Category 1B →</div> <div>Serious eye damage, Category 1 →</div> <div>Skin Sensitization, Category 1 →</div> <div>Reproductive toxicity, Category 2 →</div> <div>H373: May cause damage to organs through prolonged or repeated exposure.</div> </div> <div> <div>H302: Harmful if swallowed</div> <div>H311: Toxic in contact with skin</div> <div>H314: Causes severe skin burns and eye damage</div> <div>H317: May cause an allergic skin reaction</div> <div>H361: Suspected of damaging fertility or the unborn child</div> <div>H373: May cause damage to organs through prolonged or repeated exposure.</div> </div> <div>Specific target organ toxicity - repeated exposure, Category 2 →</div>	<div> <div>Acute toxicity to fish</div> <div>Acute toxicity to daphnia and other aquatic invertebrates</div> <div>Toxicity to aquatic plants</div> <div>Toxicity to microorganisms</div> <div>M-Factor Ammonium hydroxide</div> <div>Biodegradability</div> <div>Toxicity to benthic organisms</div> <div>Toxicity to soil dwelling organisms</div> <div>Toxicity to terrestrial plants</div> <div>Toxicity to above ground organisms</div> </div> <div> <div>LC50 - 96 h: ca.68mg/L Rainbow trout</div> <div>Not tested</div> <div>Not tested</div> <div>Not tested</div> <div>Acute aquatic toxicity = 1</div> <div>< 70% - 28 Days</div> <div>Not tested</div> <div>Not tested</div> <div>Not tested</div> <div>Not tested</div> </div>	Chemical resistant, tightly fitting goggles Impervious clothing Change working clothes after each shift Handle in accordance with good industrial hygiene and safety practice Wash hands before breaks/at the end of workday When using do not eat, drink or smoke Eye wash bottles/stations in compliance with applicable standards Ensure that eyewash stations and showers are close to the workstation location	Health - 3 Serious Flammability - 1 Slight Instability or Reactivity - 0 Minimal	Ammonium HydroxideCAS - No. 1336-21-6 1000b	Not classified re: corrosion of metals	Oxidizing agents, strong acids or bases, and amines
Danafloat 067 (alternative to AeroFloat 242)	Quadra Chemicals Inc.	Flotation Agent	NA	<div> <div>Acute toxicity, Category 4 →</div> <div>Acute toxicity, Category 3 →</div> <div>Skin Corrosion, Category 1 →</div> <div>Serious eye damage, Category 1 →</div> </div> <div> <div>H302: Harmful if swallowed</div> <div>H311: Toxic in contact with skin</div> <div>H314: Causes severe skin burns and eye damage</div> <div>H318: Causes serious eye damage</div> </div>	<div> <div>Acute EC50 5 to 10ppm Marine Water - Species: Algae -macrocystic pyellera - young</div> <div>Acute EC50 7000 µg/l fresh water - Crustaceans - Gammarus fasciatus</div> <div>Acute LC50 10000 µg/l fresh water Fish - Iepomis macrochirus</div> </div> <div> <div>Exposure 4 days</div> <div>48 Hours</div> <div>96 Hours</div> </div>	Chemical resistant, tightly fitting goggles Impervious clothing Change working clothes after each shift Handle in accordance with good industrial hygiene and safety practice Wash hands before breaks/at the end of workday When using do not eat, drink or smoke Eye wash bottles/stations in compliance with applicable standards Ensure that eyewash stations and showers are close to the workstation location	Health - 3 Flammability - 0 Physical Hazards - 0	Ammonium O. O-bis(methylphenyl) dithiophosphate 49-51 % CAS -No. 587373-83-4 mix-cresol 0-7% CAS No. 1319-77-3 amoonia 0-7% CAS No. 1336-21-6	Corrosive to the respiratory system and digestive tract	Acids
Aerophine 3418 Promoter	Solvay (distributor for Cytec Industries Inc.)	AEROPHINE 3418A has application in flotation of copper- and lead-sulfide minerals, particularly where these are found in complex sulfide ores containing sphalerite zinc mineralization, and ores with high levels of pyrite and/or pyrrhotite.	NA	<div> <div>Serious eye damage, Category 1 →</div> <div>Skin sensitization, Sub - Category 1B →</div> <div>Health hazards not otherwise classified, Category 1 →</div> </div> <div> <div>H318: Causes serious eye damage</div> <div>H317: May cause an allergic skin reaction</div> <div>Contact with acids liberates toxic gases</div> </div>	<div> <div>Acute toxicity to fish</div> <div>Acute toxicity to daphnia and other aquatic invertebrates</div> <div>Toxicity to aquatic plants</div> <div>Toxicity to microorganisms</div> <div>Chronic toxicity to fish</div> <div>Chronic to daphnia and other aquatic invertebrates</div> <div>Toxicity to benthic organisms</div> <div>Toxicity to soil dwelling organisms</div> <div>Toxicity to terrestrial plants</div> <div>Toxicity to above ground organisms</div> </div> <div> <div>Not harmful (LC/L50>100mg/L)</div> <div>Not harmful (EC/EL50>100mg/L)</div> <div>Not harmful (EC/EL50>100mg/L)</div> <div>Not tested</div> <div>Not tested</div> <div>Not tested</div> <div>Not tested</div> <div>Not tested</div> <div>Not tested</div> <div>Not tested</div> </div>	Impervious gloves - Nitrile or fluorinated rubber gloves Chemical resistant goggles, tightly fitting Impervious clothing Full protective suit Change working clothes after each shift contaminated work clothing should not be allowed out of the workplace Handle in accordance with good industrial hygiene and safety practice Wash hands before breaks and at the end of workday When using do not eat, drink, smoke Eye wash bottles/stations in compliance with applicable standards Ensure that eyewash stations and safety showers are close to the work station location.	Health - 3 Serious Flammability - 1 Slight Instability or Reactivity - 0 Minimal	N/A	Not corrosive to metals	Mineral acids, strong oxidizing agents, strong acids or bases
Copper Sulfate Pentahydrate	Quadra Chemicals LTD.	Used in Zinc flotation as an activator of sphalerite	cupric sulfate, blue vitriol, bluesone	<div> <div>Acute Toxicity - Oral Category 4 →</div> <div>Skin Corrosion/Irritation Category 2 →</div> <div>Eye damage/Irritation Category 2 →</div> </div> <div> <div>Harmful if swallowed</div> <div>Harmful in contact with skin</div> <div>Eye damage/Irritation</div> </div>	<div> <div>Ecotoxicity</div> <div>Persistence and degradability</div> <div>Bioaccumulation</div> <div>Mobility</div> <div>Other Adverse Effects</div> </div> <div> <div>Very toxic to aquatic life with long lasting effects</div> <div>Not determined</div> <div>Not determined</div> <div>May be mobile due to water solubility</div> <div>Not Determined</div> </div>	Safety glasses with side shields/goggles Long sleeved shirt, long pants, and shoes plus socks Water proof gloves Discard clothing and other absorbent materials that have been drenched or heavily contaminated with products concentrate Wash PPE Separately from other laundry. Wear an approved respirator for dusts or mists Handle in accordance with good industrial hygiene and safety practices.	Health - 3 Serious Flammability - 0 Instability or Reactivity - 0 Minimal	CAS313 Category Codes N100 & (CERCLA) 313	Mildly corrosive to steel	Aluminum powder, acetylene gas, hydroxylamine, magnesium and moisture
Hyperloc AF 309	SNF, Inc.	Used as a settling agent. A flocculant causes the suspended mineral to form into small masses. This will make the thickener load settle.	NA	<div> <div>No known hazards to humans</div> <div>Aqueous solutions or powders that become wet render surfaces extremely slippery</div> </div>	<div> <div>Acute toxicity to fish</div> <div>Acute toxicity to invertebrates</div> <div>Acute toxicity to algae</div> <div>Chronic toxicity to fish</div> <div>Chronic toxicity to invertebrates</div> <div>Toxicity to microorganisms</div> <div>Effects on terrestrial organisms</div> <div>Sediment toxicity</div> </div> <div> <div>LC50/Danio rerio/96 hours > 100mg/L (OECD 203)</div> <div>LC50/Fathead minnow/96 hours > 100mg/L (OECD 203)</div> <div>LC50/Scenedesmus subspicatus/72 hours > 100mg/L (OECD 201)</div> <div>No Data</div> <div>No Data</div> <div>No Data</div> <div>No known effects</div> <div>No Data</div> </div>	Safety glasses with side shields Plastic material gloves Work clothes protecting arms, legs and body Dust safety masks recommended where working powder concentration is more than 10 mg/m3. Wash hands before breaks and immediately after handling the product.	Health - 0 Flammability - 0 Instability - 0	CERCLA - Hazardous substances list (40 CFR 302.4) - RQ - Not concerned	Not classified re: corrosion of metals	Strong bases, oxidizing agents
Hydrated Lime	Lhoist North America	Lime is used to adjust the pH to aid in the collector adsorption by controlling the pulp chemistry. It also aids in the depression of certain minerals	NA	<div> <div>Eye damage Category 1 →</div> <div>Carcinogen Category 1 →</div> <div>Skin Irritation Category 2 →</div> <div>Specific Target Organ Toxicity Single Exposure Category 3 →</div> <div>Specific Target Organ Toxicity Repeat Exposure Category 1 →</div> </div> <div> <div>Serious eye damage</div> <div>Skin irritation</div> <div>Respiratory irritation</div> <div>Damage to lungs through prolonged or repeated exposure when inhaled</div> <div>Cancer potential through inhalation</div> <div>Hydrated lime is not listed as a carcinogen, however this product contains crystalline silica, which is classified as carcinogenic to humans when inhaled.</div> </div>	<div> <div>Reacts with atmospheric CO2 overtime to form calcium carbonate</div> <div>No bioaccumulation effect or food chain concentration toxicity</div> <div>Minimal mobility in soil. Reacts with clay portion of soil to form calcium silicates and calcium aluminates</div> <div>This material is alkaline and if released into water or moist soil will cause an increase in pH.</div> <div>Cancer potential through inhalation</div> <div>Hydrated lime is not listed as a carcinogen, however this product contains crystalline silica, which is classified as carcinogenic to humans when inhaled.</div> </div> <div> <div>Calcium Hydroxide 13mg/m305-60 OSHA PEL: 15 mg/m3 (total)</div> <div>5 mg/m3 (respirable)</div> <div>ACGIH TLV: 5 mg/m3</div> <div>Magnesium Oxide 1309-48-4 OSHA PEL: 15 mg/m3</div> <div>ACGIH TLV: 10 mg/m3</div> <div>Crystalline Silica 14808-60-7 OSHA PEL: 0.050mg/m3 as an 8 hr. TWA (respirable)</div> <div>ACGIH TLV: 0.025 mg/m3 (respirable)</div> </div>	NIOSH Approved respirators if airborne concentration exceeds PEL Safety Glasses with side shields or safety goggles. Contact lenses should not be worn when working with the lime products. Wear appropriate clothing and gloves to prevent contact Eye wash fountain and emergency showers close to work station location	N/A	N/A	Not classified re: corrosion of metals	Acids, reactive fluorinated or brominated compounds, reactive powdered metals, organic acid anhydrides, nitro-organic compounds, reactive phosphorus compounds, interhalogenated compounds
Oreprep F-549 Frother	Solvay (distributor for Cytec Canada Inc.)	A frothing agent used to create a stable surface for sulfide mineral to adhere.	NA	<div> <div>Skin irritation Category 2 →</div> <div>Eye irritation Category 2A →</div> </div> <div> <div>H315: Causes skin irritation</div> <div>H319: Causes serious eye irritation</div> </div>	<div> <div>Acute toxicity to fish</div> <div>Acute toxicity to daphnia and other aquatic invertebrates</div> <div>Toxicity to aquatic plants</div> <div>Toxicity to microorganisms</div> <div>Chronic toxicity to fish</div> <div>Chronic toxicity to daphnia and other aquatic invertebrates</div> <div>Acidic degradation</div> <div>physical and photo-chemical elimination</div> <div>Biodegradation</div> <div>Adsorption potential</div> <div>Known distribution to environmental compartments</div> <div>Results of PBT and vPvB assessment</div> <div>Other adverse effects</div> </div> <div> <div>No Data</div> <div>No Data</div> <div>No Data</div> <div>No Data</div> <div>No Data</div> <div>No Data</div> <div>No Data</div> <div>No Data</div> <div>No Data</div> <div>No Data</div> </div>	Store in a well ventilated area Chemical resistant goggles tightly fitting Impervious clothing Change work clothes after each work shift Contaminated work clothing should not be allowed out of the workplace Handle in accordance with good industrial hygiene and safety practice Wash hands before breaks and at end of workday Do not eat, drink or smoke while using this product.	Health - 2 Moderate Flammability - 1 Instability or reactivity - 0 or Minimal.	N/A	Not corrosive to metals	Strong oxidizing agents
Polyfroth W20 (Alternative to Oreprep)	Quadra Chemicals Inc.	A frothing agent used to create a stable surface for sulfide mineral to adhere.	NA	<div> <div>While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employee's and other users of this product.</div> <div>No known significant effects or critical hazards.</div> </div>	<div> <div>No known significant effects or critical hazards.</div> <div>Ecotoxicity - Not available</div> <div>Persistence and degradability - Not available.</div> </div>	Chemical resistat, impervious gloves, complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary	Health - 0 Flammability - 0 Instability - 0	NA	NA	No specific test data related to reactivity available for this product or it's ingredients. The product is stable Under normal conditions of storage and use, hazardous reactions will not occur.
Sodium Isopropyl Xanthate Flottec SIFX Collector	Charles Tennant & Copmany	Xanthate is commonly used in the flotation process of sulfide minerals. Xanthate is a combination of alcohol, sodium hydroxide and carbon dioxide, which is an anionic collector.	NA	<div> <div>Sodium isopropylxanthate</div> <div>Self heating substances and mixtures Category 1 →</div> <div>Acute toxicity (oral) Category 4 →</div> <div>Acute toxicity (dermal) Category 4 →</div> <div>Skin irritation Category 2 →</div> <div>Eye irritation Category 2A →</div> <div>Catches Fire spontaneously if exposed to air</div> <div>Harmful if swallowed or in contact with skin</div> <div>Causes skin irritation</div> </div> <div> <div>Proxan Sodium (Synonym)</div> <div>H251: Self Heating; may catch fire</div> <div>H302: Harmful if swallowed</div> <div>H315: Causes skin irritation</div> </div>	<div> <div>Acute Aquatic Toxicity Category 2 →</div> <div>Chronic Aquatic Toxicity Category 2 →</div> </div> <div> <div>H411: Toxic to aquatic life long lasting effects</div> </div> <div> <div>Do not allow to enter soil, water ways or waste water.</div> <div>This product may be harmful to aquatic life</div> <div>Biodegradability</div> <div>Acidic degradation</div> <div>All waste from this product including all empty containers must be disposed of in accordance with municipal, provincial and federal regulations.</div> </div>	Wear impervious gloves when there is greater exposure risk If respiratory protection is required institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection. NIOSH or MSHA approved respirator for acidic vapors Face shield, safety glasses with side shields. Safety Boots Adequate protective clothing An eye wash station/safety shower should be near the work station Explosion proof mechanical ventilation to limit vapor concentration below T.L.V.	Health - 2 Flammability - 0 Instability - 2	CAS/313 Category Codes 7440-23-5 CERCLA RQ 10	Not classified re: corrosion of metals	Strong oxidizing agents, strong acids, strong bases, flammable liquids, heat, moisture
NAX 31 (Sodium Isopropyl Xanthate alternative)	Prospec Chemicals (Charels Tennant & CO 3rd party supplier of Xanthate. Cascade columbia is a Distributor for Charles Tennant)	Xanthate is commonly used in the flotation process of sulfide minerals. Xanthate is a combination of alcohol, sodium hydroxide and carbon dioxide, which is an anionic collector.	NA	<div> <div>Acute Toxicity Oral Category 1 →</div> <div>Acute Toxicity Dermal Category 4 →</div> <div>Acute Toxicity Skin Irritation</div> <div>Eye irritation Category 2 →</div> <div>Danger Category 2 →</div> </div> <div> <div>Harmful if swallowed</div> <div>Harmful in contact with skin</div> <div>Wash with plenty of soap and water</div> <div>Eye damage/Irritation</div> <div>NA</div> </div>	<div> <div>NA</div> </div> <div> <div>NA</div> </div>	Wear impervious gloves. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection. Refer tot eh CAS standard Z94.4-m1982 Selection, care and use of respirators. If vapors are present, use a NIOSH or MSHA approved respirator for acidic vapours or a self contained breathing apparatus. Face shield, safety goggles. Rubber safety boots, adequate protective clothing. Eye wash station and safety shower should be near the work area.	NA	NA	Not classified re: corrosion of metals	Strong oxidizing agents, strong acids, strong bases, flammable liquids, heat, moisture
Sodium Metabisulfite	Quadra Chemicals LTD. (Prospect Chemicals 2nd3rd party distributor/supplier)	Sodium Metabisulfite aka MBS is used for pH control in froth flotation to control Pyrite depression. ... It is also used to prevent flotation of sphalerite by copper activation in the presence of Tennantite/Covellite in the ore.	Sodium Pyrosulfite, Disodium Pyrosulfite, Pyrosulfurous Acid, Disodium Salt, Sodium Disulfite.	<div> <div>Acute Toxicity Oral Category 4 →</div> <div>Acute Toxicity Dermal Category 4 →</div> <div>Serious Eye Irritant Category 1 →</div> </div> <div> <div>Harmful if swallowed</div> <div>Harmful in contact with skin</div> <div>Eye damage/Irritation</div> </div>	<div> <div>Ecotoxicity: Sodium Metabisulfite is a non hazardous solid commonly used as a waste water dechlorination agent. High concentrations will contribute to elevated chemical oxygen demand in aquatic environments.</div> </div>	General and local exhaust ventilation systems to maintain airborne concentrations If necessary, wear and MSHA/NIOSH approved respirator. Protective boots, gloves, and clothing to prevent excessive skin contact. Protective eye glasses, safety glasses with side shields, or goggles. emergency eye wash stations, showers, and washing facilities available in the work area. Remove this material from PPE as needed. Do not eat, drink or smoke in work areas.	Health - 2 Serious Flammability - 0 Instability or Reactivity - 0 Minimal	Hazardous Substance (40 CFR 302.4) RQ N/A	Not classified re: corrosion of metals	Acid and water produce sulfure oxides. Powdered potassium, sodium metal, alkali agents, oxidizing agents, and chlorates.
Zinc Sulphate Monohydrate	Zinc Nacional	The established lead-zinc ore flotation processing scheme is to add zinc sulphate (ZnSO4) to the grind to control metal ion activation (sphalerite depression). ... Sphalerite that is rejected into the lead flotation tails is then floated in a second flotation step after activation with copper sulphate.	White vitriol , Goslarite	<div> <div>Acute aquatic toxicity Category 1 →</div> <div>Skin corrosion/irritation Category 2 →</div> <div>Serious eye damage Category 1 →</div> <div>Specific target organ toxicity, single exposure, Respiratory tract irritation Category 3 →</div> <div>Hazardous to the aquatic environment, long-term hazard Category 1 →</div> </div> <div> <div>H302: Harmful if swallowed</div> <div>H315: Causes skin irritation</div> <div>H318: Causes serious eye damage</div> <div>H373: May cause respiratory irritation</div> <div>H410: Very toxic to aquatic life with long lasting effects</div> </div>	<div> <div>LC50 24 Hours fish (rainbow trout) 1.24 mg/L</div> <div>LC50 48 Hours fish (rainbow trout) 2.4 - 5mg/L</div> <div>LC50 96 Hours fish (rainbow trout) 24 - 83 mg/L</div> <div>LC50 96 Hours Daphnia 7.4 mg/L</div> </div> <div> <div>Zinc Sulphate has a high water solubility and its zinc and manganese contents are directly bio available. The zinc may be toxic to aquatic organism, especially fish, with water hardness< 100 mg/L and dissolved organic carbon levels being regulating factors.</div> </div>	Gloves and long-sleeved work clothes or disposable coveralls may be necessary. Eye protection should be worn where dust is generated and there is a potential that eye contact may occur. Use adequate local or general ventilation where necessary to maintain the concentrations of dust well below the recommended occupation exposure limits for general Particulates, not otherwise specified. Where dust fumes are generated and cannot be controlled to within acceptable levels by engineering means, use appropriate NIOSH approved respiratory protection equipment.	Does not burn or support combustion § 5 Fire Fighting Measures SDS	CERCLA RQ 1000 Section 313c	Not classified re: corrosion of metals	Strong oxidizers, acids, strong bases