Material Safety Data Sheet

EMERGENCY NUMBERS:

(USA) CHEMTREC : 1(800) 424-9300 (24hrs)

ACTION MINING: 1(800)624-1511

WHMIS	Protective Clothing	TDG Road/Rail
WHMIS CLASS: D-1B D-2A		TDG CLASS: 6.1 PIN: UN2291 PG: III
		

Section I. Product Identification and Uses

Product name	ACTION MINING PGM SMELTING FLUX
Chemical formula	Not applicable.
Synonyms	
Supplier	Action Mining Services Inc 37482 Ruben Lane Sandy OR 97055
Material uses	For laboratory use only.

CI#	Not available.
CAS#	Not applicable.
Code	
Formula weight	Not applicable.
Supersedes	

Section II. Ingredients

Name	CAS #	%	TLV
1) LEAD OXIDE, MONO	1317-36-8	30-60	Exposure limits: ACGIH (Lead, elemental and inorganic compounds (as Pb)) TWA 0.05 mg(Pb)/m3
2) SODIUM CARBONATE	497-19-8	15-40	Not established by ACGIH
3) SODIUM BORATE	1330-43-4	10-30	Exposure limits: ACGIH TWA 1 mg/m3
4) SILICA SAND	14808-60-7	1-5	Exposure limits: ACGIH TWA 0.1 mg/m3 (respirable dust):
5) BAKING FLOUR	Not available	1-5	Not available
6) ANTIDUST	Not available	0.1-1	Not available

Toxicity values of the hazardous ingredients

LEAD OXIDE, MONO:
INTRAPERITONEAL (LD50): Acute: 217 mg/kg (Mouse).
SILICA:
LD50: Not available.
LC50: Not available.
SODIUM BORATE DECAHYDRATE:
ORAL (LD50): Acute: 2660 mg/kg (Rat). 2000 mg/kg (Mouse). 5330 mg/kg (Guinea pig).
ORAL (LDLo): Acute: 709 mg/kg (Human).
SODIUM CARBONATE:
ORAL (LD50): Acute: 4090 mg/kg (Rat). 6600 mg/kg (Mouse).
DUST (LC50): Acute: 800 mg/m3 (Guinea pig) (2 hour(s)).
INHALATION (LC50): Acute: 2300 mg/m3 (Rat) (2 hour(s)). 1200 mg/m3 (Mouse) (2 hour(s)).

Section III. Physical Data

Physical state and appearance / Odor	Orange powder or crystals, odorless.
pH (1% soln/water)	Not available.
Odor threshold	Not available.
Percent volatile	Not available.
Freezing point	Not available.
Boiling point	Not available.
Specific gravity	Not available.
Vapor density	Not available.
Vapor pressure	Not available.
Water/oil dist. coeff.	Not available.
Evaporation rate	Not available.
Solubility	Slightly soluble in cold water.

Section IV. Fire and Explosion Data

Flash point	Not available.
Flammable limits	Not available.
Auto-ignition temperature	Not available.
Fire degradation products	Toxic fumes of lead and lead oxide. Oxides of carbon, sodium, and boron.
Fire extinguishing procedures	Use extinguishing media suitable for surrounding materials. Wear adequate personal protection to prevent contact with material or its combustion products. Self contained breathing apparatus with a full facepiece operated in a pressure demand or other positive pressure mode. Cool containing vessels with flooding quantities of water.
Fire and Explosion Hazards	The sensitivity to static discharge is not available. The sensitivity to impact is not available. Emits toxic fumes under fire conditions.

Section V. Toxicological Properties

Routes of entry	Inhalation and ingestion. Eye contact. Skin contact. Skin absorption.
Effects of Acute Exposure	May be fatal by ingestion, inhalation or skin absorption. Neurotoxin. May impair the reproductive systems of both men and women. Damage may also be caused to the unborn fetus. Lead is a cumulative poison and even exposures to small amounts can raise the body's content to toxic levels. Target organs: blood, central nervous system, liver, kidneys, gastrointestinal system, male and female reproductive system, peripheral nervous system, skeletal muscle, brain, thyroid, testis, respiratory system, skin, eyes.
Eye	Causes irritation.
Skin	Causes skin irritation. Symptoms of lead poisoning (see ingestion) may occur. Readily absorbed through skin.
Inhalation	Material is irritating to mucous membranes and upper respiratory tract. Local irritation of the bronchia and lungs can occur. Prolonged exposure or repeated exposure can lead to lead poisoning and death (see ingestion).
Ingestion	Poison! Lead salts may cause fatigue, disturbance of sleep, abdominal pain, nausea, headache, anorexia, metallic taste in mouth, muscle and joint pain, dizziness, colic, paralysis, hypertension, thirst, vomiting, constipation or diarrhea, muscle weakness, irritability, encephalopathy, parasthesia, convulsions, coma and death. Prolonged overexposure can severely damage red blood cell formation, central and peripheral nervous system, lung, liver and kidney damage with oliguria, hematuria, albuminuria, hemoglobinuria, See chronic overexposure. Estimated lethal dose is 0.5 g lead.

Section V. Toxicological Properties

Effects of Chronic Overexposure	Symptoms of chronic exposure are like those for ingestion. Tiredness, loss of weight, insomnia, blue line on gums, gastrointestinal disorder (constipation and colic), muscle weakness, hypertension with bradycardia, polyneuropathy, nephropathy, anemia, nephritis, encephalopathy, eye, lung, central nervous system, liver, kidney, blood, thyroid damage. Reproductive toxin, teratogen and carcinogen. Lead compounds may cause testicular damage, sterility, sperm abnormalities, menstrual disorders, adverse effects on general reproductive performance in human. Passes through the placental barrier (can cause birth defects, postnatal development injury, increased foetal lethality and delayed foetal development.). Prolonged or repeated exposure to crystalline silica may cause silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nobules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stages, loss of appetite, pleuritic pain, and total incapacity to work. Advanced silicosis may result in death due to cardiac failure or destruction of the lung tissue. IARC - Group 2A (probably carcinogenic to humans) and "sufficient evidence" of carcinogenicity by the NTP. Medical conditions which may be aggravated: Individuals with preexisting diseases of the nerve or circulatory disorders, pulmonary/respiratory system (bronchitis, emphysema, etc..) or with skin or eye problems may be more susceptible to the effects of this product. To the best of our knowledge, the chemical, physical, and toxicity of this substance has not been fully investigated.

Section VI. First Aid Measures

Eye contact	Immediately flush eyes with copious quantities of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface. Seek immediate medical attention.
Skin contact	Immediately flush skin with plenty of water and soap for at least 15 minutes while removing contaminated clothing and shoes. Seek immediate medical attention. Wash contaminated clothing before reusing.
Inhalation	Remove patient to fresh air. Administer approved oxygen supply if breathing is difficult. Administer artificial respiration or CPR if breathing has ceased. Get immediate medical attention.
Ingestion	If conscious, wash out mouth with water. Have conscious person drink several glasses of water to dilute. Seek immediate medical attention. Never give anything by mouth to an unconscious or convulsing person.

Section VII. Reactivity Data

Stability	Stable. Conditions to avoid: High temperatures, sparks, open flames and all other sources of ignition, contamination.
Hazardous decomp. products	Not available.
Incompatibility	May react violently with acids, chlorinated rubber, halogens, dichloromethylsilane, hydrogen trisulfide, linseed oil, metal acetylides, non metals (boron, silicon, etc..), metals (aluminum, zinc, sodium, titanium, zirconium, etc...), seleninyl chloride, carbides, oxidizing agents, glycerol, silver oxide, peroxyformic acid, hydrogen peroxide, ethylene, sulfides, lithium carbide, aluminum carbide, fluoroelastomers, reducing agents, combustible materials, perchloric acid, sulfur trioxide, ammonium nitrate.
Reaction Products	Not available. Hazardous polymerization will not occur.

Section VIII. Preventive Measures

Protective Clothing in case of spill and leak	Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Full suit.
Spill and leak	Evacuate the area. Sweep up and place in container for disposal. Avoid raising dust. Minimize air borne spreading of dust. Seal container and dispose of in an approved facility. Ventilate area and wash spill site after material pick up is complete. DO NOT empty into drains. DO NOT touch damaged container or spilled material. Stay upwind: Keep out of low areas.
Waste disposal	This material and its container must be disposed of in a safe way. Dispose of waste material at an approved (hazardous) waste treatment/ disposal facility in accordance with applicable local, provincial and federal regulations. According to all applicable regulations. Harmful to aquatic life at low concentrations. Can be dangerous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.
Storage and Handling	Store in a cool place away from heated areas, sparks, and flame. Store in a well ventilated area. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drain. Do not breathe dust. Keep container tightly closed and dry. Manipulate under an adequate fume hood. Avoid raising dust. Empty containers may contain a hazardous residue. Handle and open container with care. Minimize dust generation and exposure - use dust mask or appropriate protection. Take off immediately all contaminated clothing. This product must be manipulated by qualified personnel. Do not get in eyes, on skin, or on clothing. Wash well after use. In accordance with good storage and handling practices. Do not allow smoking and food consumption while handling. Wash thoroughly after handling. Wear clean work-clothing daily. Wear suitable protective clothing. After handling, always wash hands thoroughly with soap and water. In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible.).

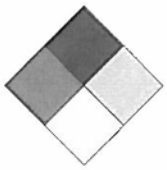
Section IX. Protective Measures

Protective clothing	Splash goggles. Impervious gloves, apron, coveralls, and/or other resistant protective clothing. Sufficient to protect skin. Wear appropriate MSHA/NIOSH approved chemical cartridge respirator. If more than TLV, do not breathe vapor. Wear self-contained breathing apparatus. Do not wear contact lenses. Make eye bath and emergency shower available. Ensure that eyewash station and safety shower is proximal to the work-station location.
Engineering controls	Use in a chemical fume hood to keep airborne levels below recommended exposure limits. Do not use in unventilated spaces.

Section X. Other Information

Special Precautions or comments

Toxic! Carcinogen! Teratogen! Embryotoxic and/or foetotoxic! Reproductive toxin! Irritant! Possible risks of irreversible effects. Danger of cumulative effects. Do not breathe dust. Avoid all contact with the product. Avoid prolonged or repeated exposure. Use in a chemical fume hood. Handle and open container with care. Container should be opened only by a technically qualified person. Danger of serious damage to health by prolonged exposure to lead dust; May affect blood, kidney, liver, heart, nervous, digestive and reproductive systems.
RTECS NO: OG1750000 (Lead monoxide).
RTECS NO: ED4588000 (Sodium borate).
RTECS NO: VZ4050000 (Sodium carbonate).
RTECS NO: VV7330000 (Silica).



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Prepared by MSDS Department/Département de F.S..

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