Date of Issue:
16 April 2015

SAFETY DATA SHEET

1. Substance and Source Identification

Product Identifier

SRM Number: 607
SRM Name: Potassium Feldspar
Trace Rubidium and Strontium
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is intended primarily for the evaluation of methods for analysis of constituent elements in feldspar or material of similar matrix. SRM 607 is powdered potassium feldspar that was sieved to less than 75 µm (<200 mesh) and greater than 44 µm (>325 mesh) and blended to ensure homogeneity. A unit of SRM 607 consists of one bottle containing approximately 5 g of powder.

Company Information

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2. Hazards Identification

Note: This particulate material may contain respirable quartz. The health and physical hazard information provided in this SDS contains the effects associated with the inhalation of quartz particulates.

Classification

Physical Hazard: Not classified.
Health Hazard: Carcinogenic Category 1
STOT, Repeat Exposure Category 1

Label Elements

Symbol

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Signal Word

DANGER

Hazard Statement(s)

H350	May cause lung cancer.
H372	Causes damage to lungs through prolonged or repeat inhalation.

Precautionary Statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves, protective clothing, and eye protection.
P308+P313	If exposed or concerned: Get medical attention.
P405	Store locked up.
P501	Dispose of contents and container in accordance with local regulations.

Hazards Not Otherwise Classified: None.

Ingredients(s) with Unknown Acute Toxicity: None.

3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

Substance: Potassium Feldspar

Other Designations: Perhite; microcline $KAlSi_3O_8$; albite $NaAlSi_3O_8$; alkali feldspar; feldspar.

Components are listed in compliance with OSHA's 29 CFR 1910.1200. This material is complex mixture that may contain trace amounts of oxide materials (See Certificate of Analysis).

Hazardous Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Feldspar	68476-25-5	270-666-7	100
Quartz	14808-60-7	238-878-4	>0.1

4. FIRST AID MEASURES

Description of First Aid Measures

Inhalation: If adverse effects occur, remove to well-ventilated (uncontaminated) area. If breathing is difficult, qualified personnel may administer oxygen. If not breathing, qualified personnel should give artificial respiration. Seek immediate medical attention.

Skin Contact: Rinse affected skin with water for at least 15 minutes, and then wash thoroughly with soap or mild detergent and water. If skin irritation persists, seek medical aid and bring the container or label.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Seek immediate medical attention.

Ingestion: If a large amount is swallowed, seek medical attention.

Most Important Symptoms/Effects, Acute and Delayed: May cause irritation, lung damage, silicosis, and cancer.

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek immediate medical attention.

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Negligible fire hazard. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media

Suitable: Use extinguishing agents appropriate to surrounding fire.

Unsuitable: None listed.

Specific Hazards Arising from the Chemical: Not applicable.

Special Protective Equipment and Precautions for Fire-Fighters: Move container from fire area if it can be done without personal risk. Avoid inhalation of material or combustion by-products. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 1 Fire = 0 Reactivity = 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".

Methods and Materials for Containment and Clean up: Avoid generating dust. Collect in appropriate container for disposal. Clean up residue with a high-efficiency particulate vacuum.

7. HANDLING AND STORAGE

Safe Handling Precautions: Use suitable personal protection equipment (PPE). See Section 8, "Exposure Controls and Personal Protection".

Storage and Incompatible Materials: Store in a well-ventilated area. Keep separated from incompatible substances (See Section 10, "Stability and Reactivity").

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits			
Components	**OSHA (PEL)**	**ACGIH (TLV)**	**NIOSH (REL)**
Feldspar	No occupational limits established.		
Silica, crystalline quartz	TWA: $30/(SiO_2 + 2)$ mg/m^3 (total dust) TWA: $10/(SiO_2 + 2)$ mg/m^3 (respirable fraction) TWA: $250/(SiO_2 + 5)$ mppcf (respirable fraction)	TWA: 0.025 mg/m^3 (respirable fraction)	TWA: 0.05 mg/m^3 (respirable dust) IDLH: 50 mg/m^3 (respirable dust)

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection Measures: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate PPE to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye Protection: Splash resistant safety goggles and emergency eyewash are recommended.

Skin and Body Protection: Chemical resistant clothing and gloves are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Descriptive Properties	**Feldspar**
Appearance (physical state, color, etc.)	white powder
Molar Mass (g/mol)	not applicable
Molecular Formula	not applicable
Odor	odorless
Odor threshold	not available
pH	not available
Evaporation rate	not available
Melting point/freezing point	1450 °C (2642 °F)
Relative Density as Specific Gravity (water = 1)	2.63
Density	not available
Vapor Pressure	not available
Vapor Density (air = 1)	not applicable
Viscosity	not applicable
Solubilities	not available
Partition coefficient (n-octanol/water)	not applicable
Thermal Stability Properties	
Autoignition Temperature	not applicable
Thermal Decomposition	not applicable
Initial boiling point and boiling range	not applicable
Explosive Limits, LEL (Volume %)	not applicable
Explosive Limits, UEL (Volume %)	not applicable
Flash Point	not applicable
Flammability (solid, gas)	not applicable

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable _____ Unstable

Possible Hazardous Reactions: Not applicable.

Conditions to Avoid: Avoid generating dust.

Incompatible Materials: Bases, halogens, acids, metal salts, metal, oxidizing materials, combustible materials.

Hazardous Decomposition: Miscellaneous decomposition products including oxides of aluminum and silicon.

Hazardous Polymerization: _____ Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: X Inhalation X Skin X Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Irritation. May aggravate respiratory disorders. Long-term exposure to respirable quartz may result in lung damage and cancer.

Potential Health Effects (Acute, Chronic, and Delayed)

Inhalation: Irritation due to feldspar. Prolonged exposure respirable quartz particles may cause cough bluish skin color, chronic bronchitis, emphysema, and silicosis.

Skin Contact: Irritation.

Eye Contact: Mechanical irritation.

Ingestion: Irritation (long-term) and indigestion.

Numerical Measures of Toxicity

Acute Toxicity: Not classified; no data available.

Skin Corrosion/Irritation: Not classified; no data available.

Serious Eye Damage/Eye Irritation: Not classified; no data available.

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Category 1

Listed as a Carcinogen/Potential Carcinogen X **Yes** _____ **No**

Feldspar is not listed by OSHA, IARC, or NTP as a carcinogen/potential carcinogen.
Quartz is listed as Group 1, *carcinogenic to humans* by IARC, known human carcinogen (respirable size) by NTP. Quartz not listed by OSHA as a designated carcinogen.

Tumorigenic data: Rat, inhalation, TCLo: 50 mg/m^3 (6 h)
Mutagenic data: Human, 120 mg/L (24 h)

Reproductive Toxicity: Not classified; no data available.

Specific Target Organ Toxicity, Single Exposure: Not classified; no data available.

Specific Target Organ Toxicity, Repeated Exposure: Category 1

Quartz: Repeated and prolonged exposure to respirable quartz may cause silicosis.

Aspiration Hazard: Not applicable.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data: No data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with all applicable federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: Not regulated by DOT and IATA.

15. REGULATORY INFORMATION

U.S. Regulations

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Section 313 (40 CFR 372.65): Not regulated.

OSHA Process Safety (29 CFR 1910.119): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21)

ACUTE HEALTH:	No
CHRONIC HEALTH:	Yes
FIRE:	No
REACTIVE:	No
PRESSURE:	No

State Regulations: Not listed.

U.S. TSCA Inventory: Feldspar and quartz are listed.

TSCA 12(b), Export Notification: Not listed.

Canadian Regulations: WHMIS Information is not provided for this material.

16. OTHER INFORMATION

Issue Date: 16 April 2015

Sources: ChemADVISOR, Inc., SDS *Feldspar*, 15 December 2014.
ChemADVISOR, Inc., SDS *Quartz*, 15 December 2014.

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transportation Agency	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	SRM	Standard Reference Material
LC50	Lethal Concentration	STEL	Short Term Exposure Limit
LD50	Median Lethal Dose or Lethal Dose, 50 %	TLV	Threshold Limit Value
LEL	Lower Explosive Limit	TPQ	Threshold Planning Quantity
MSDS	Material Safety Data Sheet	TSCA	Toxic Substances Control Act
NFPA	National Fire Protection Association	TWA	Time Weighted Average
NIOSH	National Institute for Occupational Safety and Health	UEL	Upper Explosive Limit
NIST	National Institute of Standards and Technology	WHMIS	Workplace Hazardous Materials Information System
n.o.s.	Not Otherwise Specified		

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The values for this material are given in the NIST Certificate of Analysis.

Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the Internet at http://www.nist.gov/srm.