MATERIAL SAFETY DATA SHEET
WHITE POWDERED LUBRICANT
Panef Inc.

 Revision Date: 01/01/09

Section 1: Chemical Product and Company Identification

Product Name: White Powdered Lubricant

Product Number: Panef W-51 & W-52

Manufacturer: Panef Inc.
5700 West Douglas Ave.
Milwaukee, WI 53218

Emergency Telephone: 800-535-5053

Total Pages: 6

Information Telephone: 414-464-7200

Section 2: Composition / Information on Ingredients

Chemical Formula:	$KAL_2Si_3O_{10}(OH)_25H_2O$
Chemical Family:	Silicate Minerals
C.A.S. No.:	12001-26-2 (listed As Silicate, Mica)
Canadian Product ID NO.:	None Listed
Product Use:	Industrial Manufacturing

Section 3: Hazards Identification

Route (s) of Entry:	**Inhalation**	**Eyes**
	Yes	Yes

Prolonged breathing of excessive dust may adversely affect lung function. Use NIOSH approved dust mask for dusty conditions.

Section 4: First Aid Measures

Eyes: Immediately flush the eyes with plenty of water for at least fifteen minutes. If irritation occurs or persists, obtain medical attention.
Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If irritation occurs and persists, obtain medical attention.

Section 5: Fire Fighting Measures

National Fire Protection Code 704:	Fire (Red) (0), Health (Blue) (0), Reactivity (yellow) (0)
Physical Hazard:	Non-combustible
Flammability in Air:	Not applicable
Flash Point:	Not applicable
Autoignition Temperature:	Not applicable
Extinguishing Media:	Any suitable for fire in surrounding area
Special Fire Fighting Procedure:	Not applicable
Explosion Data:	Non-explosive
Unusual Fire & Explosion Hazard:	None
Incompatibility:	None
Hazardous Combustion Product:	Not applicable
Sensitivity to Mechanical Shock:	Not applicable
Sensitivity to Static Discharge:	Not applicable

Section 5: Fire Fighting Measures(continued)

Conditions of Reactivity: None
Hazardous Decomposition Products: Not applicable
Conditions Contributing to Instability: None
Conditions Contributing to Hazardous Polymerization: Does not polymerize

Section 6: Accidental Release Measures

Spill / Leak Procedures: None, a spill can be sprayed with water to suppress dust an then either washed away or shoveled into a suitable disposal container. (See 13. Disposal Consideration)

Section 7: Handling and Storage

Handling and Storage Precautions: Do not breathe dust and avoid getting in eyes. Keep container closed. Use with adequate ventilation. Drying and/or grinding may increase dusting hazards. Control dust levels in work place.

Section 8: Exposure Controls / Personal Protection

Personal Protection Equipment:

Respiratory: Wear a NIOSH/MSHA approved respirator when adequate ventilation is not available.
Eyes: Safety glasses or goggles
Gloves: None
Footwear: No special type indicated
Clothing: No special type indicated
Others: None
Ventilation Requirements: Provide adequate ventilation to maintain below exposure limits.

Ingredient Exposure Limits:

TLV Data

Material	C.A.S. #	Wt.%	PEL (OSHA)	TWA (ACGIH)	STEL (ACGIH)	Ceiling (OSHA)	IDLH (OSHA)
Mica	12001-26-2	95.0 to 99.920	mppcf	3mg/M³(1)	No applicable info was found		
Quartz	14808-60-7	0.1 to 5.0(4)	10mg/M³+ .01 mg/M³(1) (% Sio2 +2)ref.(2)		No applicable info was found	50hg/M³ (3) 10 hr. TWA	

(1) Respirable Dust-See Threshold Limit Value and Biological Exposure Indices for 1991-1992, ACGHI
(2) Respirable Quartz-See 29 CFR – 1910.1000 Table Z-1-A, Air Contaminants
(3) Respirable Free Silica
(4) Respirable Free Silica for most products @ <1% (See Typical Property Data Sheet for specific product value)

Ingredients Animal Test Data: No applicable information was found

Section 9: Physical / Chemical Characteristics

Physical State:	Solid	**Vapor Density:**	Not applicable (Air=1)
Appearance & Odor:	Odorless white powder	**Vapor Pressure:**	Not applicable
Odor Threshold:	Not applicable	**Boiling Point:**	Not applicable
Density/Specific Gravity	2.8 g/cc	**pH (as is) @ 25°C:**	Not applicable
pH(1%Slurry) @ 25·C:	Not applicable	**Coefficient of Water/Oil Distribution:**	Not applicable
Melting Point:	Decomposes without melting near 1000°C (1832°F)		

Section 10: Stability and Reactivity

Stability: Stable
Solubility in Water: Insoluble (% by wt. @ 25°C (77°F))
Volatiles: Not applicable
Evaporation Rate: Not applicable (Butyl Acetate = 1)

Section 11: Toxicology Information

Product Health Hazard: OSHA/IARC Statement

This material contains crystalline silica. Some researchers have reported evidence that it is carcinogenic in humans following prolonged and repeated inhalation. Prolonged and repeated breathing of dust can cause silicosis.

Route (s) of Exposure:	Hazard	Product Tox Data and Reference
Eye Contact:	This substance may irritate the eyes.	No animal tox. data available
Inhalation:	Respirable particles of quartz are hazardous to inhale.	No animal LC50 toxicology data is available

Effects of Overexposure:
Acute Effects: Possible irritation to the eyes.
Chronic Effects: Respiratory irritant. Chronic lung damage, scar tissue development in lungs can occur if inhaled over an extended period of time. Follow TLV exposure limits, Section III
Carcinogenicity: This material contains crystalline silica. Some researchers have reported that it is carcinogenic in humans following prolonged and repeated inhalation. Prolonged and repeated breathing of dust can cause silicosis.
NTP Annual: Not listed
IARC Monograph: Crystalline silica is listed as a cardinogen to animals and there is limited evidence for the carcinogenicity to humans Group 1
OSHA 29 CFR Part 1910 SubpartZ: Not listed
ACGIH (Appendix A): Not listed
Irritancy: Respiratory irritant per OSHA, ACGIA and NIOSH and Canadian WHMIS
Sensitization, Teratogenicity, Mutagenicity, Toxicologically Synergistic Products: No info available
Any medical conditions generally recognized as being aggravated by exposure: Prior existing lung or respiratory illness.

Section 12: Ecological Information

Ecotoxicity: Not known to have negative efforts on the environment.

Section 13: Disposal Considerations

Procedure for Release or Spill: Wet with water to reduce dusting and collect in a suitable container.
Waste Disposal Method: Dispose of waste according to federal EPA state and local regulations.

Section 14: Transportation Information

Domestic:		**Foreign:**	
DOT Proper Shipping Name:	Mica	IMCO Proper Shipping Name:	Mica
DOT Classification:	None	IMCO Hazard Classification:	None
DOT Labels:	Mica	IMCO Labels:	Mica
DOT Marking:	None	IMCO Marking:	None
DOT Placard:	None		
UN Number:	None		
49 STCC Number:	None	**Emergency Accident:**	
		Precautions and Procedures:	None

Precautions to be taken in Transportation: No special precautions.

Section 15: Regulatory Information

USA:
TSCA: As a naturally occurring substance, mica is automatically included in the inventory under regulation 40 CFR 710.4, chapter 1, subsection b (7/1/86). See EPA TSCA section 8 (e) Status Report 8EHQ-0986-0632. Also, see EPA TSCA test submission (TSCATS) database, September, 1993.
OSHA: PEL 8H TWA 20 mppcf, respirable dust. FERECA 54, 2923, 89. PEL Final 8H TWA 3 mg/m³ respirable dust. FERECA 54,2923,89
NOSH Criteria Documents: Relative to silicates. (<1% Crystalline Silica): Mica in air: 10H TWA 3 mg/m³ NIOSH DHHS #92-100,92 NOHS 1974: Hazard 48535; NIS 135; TNF 12333; NOS 98; TNE 169296 NOHS 1983: Hazard X1565; NIS 2; TNF 9; NOS 3; TNE 296
ACGIH: TLV-TWA 3 mg/m³, respirable dust. 85INAB 5, 413, 86
MSHA: Ai TWA 20 mppcf, DTLWS 3.33.73
SARA TITLE III SECTION 313: This product does not contain any toxic chemicals subject ot the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SASA) and 40 CFR Part 372.
Clean Water Act Section 307 and 311: Mica is classified as a "non toxic pollutant" or "non hazardous substance".
CERCLA, 40 CFR Part 302, Table 302.4: Not listed
Section 302: Not listed
California Proposition 65: "Warning: This product contains a chemical known to cause cancer."
RCRA: Non hazardous under RCRA 3001 40 CFR Part 261.4 (b) (7)
RCRA Metals – TCLP, EPA Method 1131, 40 CFR Part 261-24, Appendix II: No detectable amounts of toxic substances shown in table 1 of this regulation were found in the leachate. TCLP analysis gave the following:

Section 15: Regulatory Information (continued)

Metal	mg/L	Percent
Arsenic	<0.005	<0.0005
Barium	<1.0	<0.01
Cadmium	<0.01	<0.001
Chromium	<0.06	<0.0006
Mercury	<0.002	<0.00002
Lead	<0.05	<0.0005
Selenium	<0.08	<0.0008
Silver	<0.05	<0.0005

These levels of RCRA metals are typical and may change slightly with different lots and types of mica.

Heavy Metals "CONEG Model" Legislation: There are no cadmium hexavalent chromium, led or mercury additives in these mica products. Mica contains only trace amounts of those elements. The following list shows typical values (percent) for bulk analysis or mica using atomic adsorption:

Antimony	<0.02 (<200 ppm)	Fluoride	<0.05 (<500 ppm)
Arsenic	<0.0002 (<2 ppm)	Lead	<0.01 (<100 ppm)
Barium	<0.002 (<20 ppm)	Manganese	<0.002 (<20 ppm)
Beryllium	<0.0002 (<2 ppm)	Mercury	<0.0002 (<2 ppm)
Cadmium	<0.002 (<20 ppm)	Nickel	<0.0008 <80 ppm)
Chromium	<0.002 (<20 ppm)	Selenium	<0.02 (<200 ppm)
Chromium +6	<0.008 (<80 ppm)	Silver	<0.002 (<20 ppm)
Cobalt	<0.002 (<20 ppm)	Thallium	<0.02 (<200 ppm)
Cooper	<0.002 (<20 ppm)	Zinc	<0.002 (<20 ppm)

FDA Regulations: Mica is permitted in the following applications:

Food additives by direct listing	§182.99(now EPA 40 CFR 180.1001)
Adhesives	§175.105.5
Resinous and Polymeric Coatings	§175.300.3
Rubber articles intended for repeated use.	§177.2600
Components of paper and paperboard in contact with aqueous and fatty food	§176.170
Closures with sealing gaskets for food containers	§177.1210
Ethylene-vinyl acetate copolymers	§177.1350
Melamine-formaldehyde resins in molded articles by cross reference to 175.300□	§177.1460
Components of paper and paperboard in contact with dry food by cross reference to 176.170□	§176.180
Color additive in cosmetics	§73.1496 and 73.2496□
Olefin polymers in contact with food	§177.1520

This regulation states that food contact articles may include substances that meet FDA prior approval.

CANADA:

Ontario 309 & Quebec-Class 1 Annexe III: Mica complies with the regulations. Mica is an inert product. No hazardous compound or ions leach from mica during normal processing.

WHMIS:

Hazard Classification: Class D. Division 2, Subdivision A
Disclosure List: Mica and silica are both listed (1% each)
Domestic Substances List (DSL): Mica is on this list

Section 15: Regulatory Information (continued)

JAPAN; Mica is not listed in the MITI index. Substances controlled by this law are substances obtained by the chemical reactions of an element or a chemical compound. Mica is therefore exempted from regulation by this law.

AUSTRALIA; Mica is listed in the ACOIN C.A.S. Registry number section as mica group minerals, 12001-26-2. TWA 2.5 mg/m^3

BELGIUM; Mica TWA 3 mg/m^3

THE NETHERLANDS; Mica TWA 5 mg/m^3

SWITZERLAND; Mica TWA 3 mg/m^3

UNITED KINGDOM; Mica TWA 1 mg/m^3 respirable dust; 10 mg/m^3 total dust

BULGARIA, COLOMBIA, JORAN, KOREA, NEW ZEALAND, SINGAPORE, VIETNAM; TLV-TWA 3 mg/m^3 , respirable dust

Section 16: Other Information

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