A Subsidiary of:

UNION CARBIDE

UMETCO MINERALS CORPORATION

EXPERIMENTAL PRODUCT

MATERIAL SAFETY DATA SHEET

Do Not Duplicate This Form, Request an Original

Union Carbide Corporation requests that users of Forsterite study this data sheet to become aware of the product's hazards, and promote safe handling of the product by making this information available to its employees, agents and contractors. If the materials is resold, Union Carbide requests that the purchaser be furnished a copy of this data sheet and advised to provide the information herein to its employees, agents and contractors.

PLAINTIFF'S EXHIBIT UC-792

SECTION I - IDENTIFICATION

PRODUCT NAME:	Forsterite	CASE NO.:	1317-71-1
CHEMICAL NAME:	Anhydrous Magnesium Silicate	FORMULAS:	Forsterite $2MgO-SiO2$
COMPOSITION:	Mixture of Forsterite, Enstatite, Magnetite		Enstatite $2MgO-SiO_2$
			Magnetite Fe_3O_4
		SYNONYMS:	Olivine Sand

SECTION II - PHYSICAL DATA

APPEARANCE:	Tan-brown Granules	SOLUBILITY:	Insoluble
ODOR:	None	VOLATILE CONTENT:	Absorbed $H_2O < 2\%$
SPECIFIC GRAVITY:	3.2 Approximately	DRY BULK DENSITY:	75-95 lb/cu ft

SECTION III - PERMISSIBLE EXPOSURE LIMITS

No specific PEL exists for Forsterite. Use PEL's for nuisance particulate <1% quartz.

	TWA mg/cu M	
	Respirable Fraction	Total Dust
OSHA:	5	15
MSHA:	-	10
ACGIH:	5	10

SECTION IV - FIRE AND EXPLOSIVE HAZARD

COMBUSTIBILITY:	Non-combustible. No fire hazard.
EXPLOSION HAZARD:	Non-explosive.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:

ACUTE

SWALLOWING:	None known.
INHALATION:	Breathing of dust may cause irritation of nose, throat, and bronchial membranes.
EYES:	May cause irritation.
SKIN:	May cause irritation by abrasive action.

CHRONIC

SWALLOWING:	No effects expected.
INHALATION:	May cause foreign body-like reaction in the lungs that is reversible with removal from exposure.
EYES:	No chronic effects expected.
SKIN:	No chronic effects expected.

Union Carbide trial exhibit UC-792: Forsterite Material Safety Data Sheet with D. F. Kapral Transmittal Memos, Lab... Published by AsbestosClaims.Law
ACL Doc 16015 · Page 1 of 6 asbestosclaims.law/library/16015/1

PRODUCT - FORSTERITE

EMERGENCY AND FIRST AID PROCEDURES

INHALATION: If breathing is labored, remove to fresh air, oxygen may be administered. If breathing stops start artificial respiration. Call a physician.

EYES: Flush with water for at least fifteen minutes. Call a physician.

SKIN: Wash with soap and water.

NOTES TO PHYSICIAN: This material closely resembles naturally occurring olivine and is expected to act in a like manner. There is no record that olivine has caused pneumoconiosis in man. In the lung, olivine has caused a foreign body reaction but no fibrosis in lab animals.

SECTION VI - REACTIVITY DATA

STABILITY: Inert material.

CONDITIONS TO AVOID: None.

HAZARDOUS DECOMPOSITION PRODUCTS: None.

MATERIALS TO AVOID: None.

SECTION VII - SPILL, LEAK, AND DISPOSAL INFORMATION

PROCEDURE FOR SPILLS: Fine material should be swept or vacuumed. Avoid maneuvering with compressed air or any other method that generates dust.

WASTE DISPOSAL: Forsterite may be disposed of in sanitary landfill in accordance with federal, state, and local regulations.

SECTION VIII - EMPLOYEE PROTECTION INFORMATION

RESPIRATORY PROTECTION: No standard exists for Forsterite. Where overexposure is anticipated, wear a NIOSH/MSHA approved respirator. For particulate concentrations of 50 mg/m^3 or less in the total dust of 25 mg/M^3 or less in the respirable dust use an approved particulate-filter respirator with quarter-mask or half-mask face-piece. For particulate concentrations greater than noted above, consult "American National Standards, Practices for Respiratory Protection (ANSI Z88-1980).

EYE PROTECTION: Goggles are recommended. Follow safety rules.

OTHER PROTECTION: Gloves are recommended. Avoid contamination of clothing with dust.

VENTILATION: Local exhaust ventilation for dust operations per local, state and federal regulations.

SECTION IX - ADDITIONAL INFORMATION

PRECAUTIONARY STATEMENT: CAUTION: Overexposure to dust may cause irritation to eyes, nose, throat, and bronchial membranes. Avoid breathing dust. Wash hands thoroughly after handling. Wear an approved respirator in dust areas.

LABELING: No DOT precautionary labeling required.

USE: For experimental use only.

HANDLING AND STORAGE: Material should be stored in closed containers and kept dry.

Effective Date: May 1, 1984

Union Carbide Corporation believes that the data herein are current as of the effective date of this data sheet, and that the opinions herein are those of qualified experts. Since the product and the information herein will be used outside the control of Union Carbide Corporation, it is the user's responsibility to establish conditions for safe use of the product.

EMERGENCY HELP TELEPHONE 304-744-3487

UNION CARBIDE

INTERNAL CORRESPONDENCE

UNION CARBIDE CORPORATION
METALS DIVISION

P.O. BOX 579, 4625 ROYAL AVE.
NIAGARA FALLS, NEW YORK 14302

To (Name)	Mr. J. T. Kelly	Date	May 1, 1984
Division	Umetco Minerals Corp.		
Location	Danbury, CT	Originating Dept	PRODUCT DEVELOPMENT
Area		Area	Niagara Falls, NY
Copy to	Messrs: R. J. Klotzbach	Subject	Transmittal Request for EPDS on Forsterite
	H. B. Rhodes		
	~~W.~~ C. Thurber		
	Customer File		

Per division policy please transmit the Experiment Product Data Sheet (EPDS) for Forsterite to:

American Colloid Company
Attn: Mr. Jim Rickey
50100 Suffield Court
Skokie, IL 60077

This EPDS has been reviewed by H. B. Rhodes and R. Butler from the Law Department, and approved by the Director of Technology (approval attached).

American Celloid is interested in evaluating the material as a replacement for zirconite sands as a casting sand in the foundry industry. See the attached Telecon Report.

We are sending a sample of material to American Colloid using the label as shown in Attachment 1.

D F Kapral

D. F. Kapral

/mau
Attachments

615-149-880

ATTACHMENT 1

FORSTERITE
(Anhydrous Magnesium Silicate)

CAUTION:
- Overexposure to dust may cause irritation to eyes, nose, throat, and bronchial membranes.
- Avoid breathing dust.
- For additional safety information see current Product Safety Data Sheet. EMERGENCY HEALTH TELEPHONE NUMBER: 304-744-3478.
- Do Not Reuse this container unless thoroughly cleaned.

FOR EXPERIMENTAL USE ONLY

UMETCO MINERALS CORPORATION · OLD RIDGEBURY ROAD

DANBURY, CT 06817

TELECON REPORT

TO:	Mr. James Rickey	DATE:	April 5, 1984
LOCATION:	American Colloid Co.	PHONE NO:	(312) 966-5720
FROM:	Mr. D. F. Kapral	FILE NO.:	14530-10971
LOCATION:	Niagara Falls, NY	DISTRIBUTION:	B. L. Ingalls R. J. Klotzbach W. C. Thurber R. G. Woolery F. T. Temple R. G. Legg W. G. Beattie
SUBJECT:	Evaluation of Forsterite and FeV Slags as Refractory Components		

American Colloid Company is a marketer of bentonite clays and binding systems for use in the foundry industry. They have an interest in evaluating our forsterite materials as a replacement for zircon sands or chromite sands. American Colloid would like to take advantage of some marketing synergism in that they could market the casting sands when they are making sales calls for their bentonite clay systems.

Mr. Rickey indicated that the market for chromite sands, which are really chromite ores, is 60,000-80,000 tons per year. The market for zirconite sands is also in the range or 60,000-80,000 tons per year.

Mr. Rickey indicated that a nominal selling price for bagged forsterite in this market place would be $150-175 per ton.

Mr. Rickey requested a coffee-can sized sample of forsterite for feasibility testing. The partcile size distribution of interest to American Colloid would be material sized 60 x 140 mesh. They have the ability to size a material which we send to them.

Mr. Rickey is also interested in evaluating our ferrovanadium slags as a refractory material. He indicated that a 5 gallon sample would be sufficient for laboratory testing purposes.

Samples are being prepared for shipment.

UNION CARBIDE

INTERNAL CORRESPONDENCE

UNION CARBIDE CORPORATION
METALS DIVISION

P.O. BOX 579, 4625 ROYAL AVE.
NIAGARA FALLS, NEW YORK 14302

To (Name)	Mr. R. J. Klotzbach	Date	May 1, 1984
Division	Umetco Minerals Corporation		
Location	Niagara Falls, NY	Originating Dept	PRODUCT DEVELOPMENT
Area			
		Area	Niagara Falls, NY
Copy to	Manager of Product Safety Director of Sales File F-10000	Subject	Experimental Product Data Sheet for Forsterite

The attached Experimental Product Data Sheet (EPDS) has been reviewed by the Law Department and Harry Rhodes. The data sheet is endorsed by the Product Development Group and represents our current knowledge concerning the material.

Per corporate procedures please review and approve the subject data sheet.

D. F. Kapral

Approved By: _____

R. J. Klotzbach
Director - Technology

/mau
Attachment

615-149-880