SAFETY DATA SHEET

1. IDENTIFICATION OF THE PRODUCT AND MANUFACTURING COMPANY

1.1. Name of the chemical substance or mixture

Product name:	**Fluorspar (Metallurgical grade)**
Synonyms:	Calcium fluoride, Fluorspar, Fluorite, Metallurgical.
Chemical formula:	CaF2
Molecular weight:	78.08
Chemical family:	Calcium fluoride salts
Product use:	*Industrial applications:* Used as flux in ferrous metallurgy and in the production of cement, glass and ceramics.

1.2. Identification

Code:	Not available
CAS:	N/A
DSL:	One or more ingredients are not on the DSL list
CL:	N/A

1.3. Supplier or manufacturer details

Supplier:	MEXICHEM FLUOR, S.A. DE C.V. Eje 106 S/N, zona industrial, 78395 San Luis Potosí, S.L.P., Mexico.
In case of emergency:	+52 444 826 7700

2. IDENTIFICATION OF HAZARDS:

Pictogram:

Signal word: Hazard

Hazard statement(s):

H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statement(s):

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352	IF ON SKIN, wash with plenty of water.
P304 + P340	IF INHALED remove person to fresh air and keep comfortable for breathing.
P308 + P313	IF exposed or concerned get medical advice/attention.
P301 + P330 + P331	IF SWALLOWED rinse mouth. Do NOT induce vomiting.
P305+P351+P338	IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P501	Dispose of contents / container.

Health effects: As shipped, this product generates no health risks. Conditions and working practices that cause raising of dust must be avoided or controlled as these dusts could cause health hazards.

Potential chronic health effects:

CARCINOGENIC EFFECTS: Not applicable.

MUTAGENIC EFFECTS Not applicable.

TERATOGENIC EFFECTS: Not applicable.

Toxicity of product to reproductive system: Not applicable.

There are no known effects of constant exposure to this product. Repeated or prolonged exposure, under normal working conditions, is not known to aggravate medical conditions.

3. COMPOSITION / INFORMATION ON INGREDIENTS

		Exposure levels according to ACGIH			
Name	CAS	TLF-TWA	TLV-STEL	TLV-CEIL	% BY WEIGHT
Calcium fluoride	7789-75-5	2.5			80-85
Crystalline silica	14808-60-7	0.05			5-11
Calcium carbonate	0471-34-1	10		20	2-5
Toxicological information on hazardous ingredients	Not applicable				

4. FIRST AID MEASURES

Eye contact:	Look for contact lenses and remove them if necessary. Immediately rinse the eyes with plenty of water, and keep the eyes open for at least 20 minutes. Consult a physician.
Skin contact:	Wash the skin with soap and water after handling this product.
Inhalation:	Remove the affected person from exposure and bring them to fresh air: if breathing becomes labored, give oxygen and seek immediate medical attention.
Ingestion:	DO NOT INDUCE VOMITING. Drink large quantities of water or milk. Do not induce vomiting or give fluids to an unconscious person. Immediately consult a physician.
	In all cases seek medical attention.

5. FIRE AND EXPLOSION CONTROL MEASURES

This product is:	Non-flammable
Auto-ignition temperature:	Not applicable
Flash point:	Not applicable
Flammable limit:	Not applicable
Products of combustion:	Calcium oxide, carbon dioxide and hydrogen fluoride.
Risk of fire in the presence of various substances:	Not applicable

Risk of explosion in the presence of various substances:	Risk of the product exploding with mechanical impacts: Not applicable. Risk of the product exploding in the presence of static discharge: Not applicable.
Instructions and means of fighting fires:	In its current form, the product is NON-FLAMMABLE. Use fire-fighting procedures and materials adapted to the immediate environment. Fire fighters must wear self-contained breathing apparatus and full protective clothing.
Special remarks on fire risk:	When heated to its decomposition point, the product may release very irritating toxic gases or fumes.
Special remarks on explosion risk:	No additional comments.

6. MEASURES TO BE TAKEN IN CASE OF ACCIDENTAL SPILLAGE

Spillage:	Use the appropriate tools to put the spilled solids in recycling bins. Finish cleaning by spraying water on the contaminated surface and disposing of it in accordance with all local and national regulatory requirements.

7. HANDLING AND STORAGE

Precautions:	DO NOT inhale the dust. Keep away from incompatible materials such as strong acids. Eating, drinking, and smoking must be prohibited in areas where this material is handled, stored, and processed. Workers must wash their face and hands before eating.
Storage:	Specific storage is not required. Keep away from incompatible materials.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering controls:	Use process enclosures such as local exhaust ventilation or other engineering controls to keep suspended solids levels below the recommended limits.
Personal protection:	Wear safety glasses. Overalls, gloves, boots and dust masks. Be sure to use NIOSH/MSHA approved masks or equivalent when exposure limits are exceeded.
Personal protection in the event of large spillages:	If large concentrations of dust are present in the air, breathing apparatus must be used to avoid inhaling the material. If the concentrations are not high, use NIOSH/MSHA approved full face masks or their equivalent. Full protective suits, boots and gloves.
Exposure limits:	No exposure limits have been determined for this mixture or product; or ask the local authorities for acceptable exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance	Solid (crystalline powder of various sizes) Estimated product moisture 2% max.	Odor: Taste: Color:	Odorless Not available From white to beige
Molecular weight	78.08		
pH (1% soil/water)	Not applicable		
Boiling point	2500°C (4532°F)		
Melting point	1420 °C (2588°F)		
Critical temperature	Not available		
Specific gravity	3.18 (water= 1)		
Vapor pressure	Not applicable		
Vapor density	Not available		
Volatility	Not available		
% Moisture	Not available		

Odor threshold	Not available
Water / Distr. coeff. In oil	Not available
Ionicity (in water)	Not available
Dispersion properties	Not available
Solubility	Insoluble in cold water

10. STABILITY AND REACTIVITY

Stability:	The product is stable
Temperature of instability:	Not available
Conditions of instability:	No additional notes
Incompatibility with various substances:	See special notes on reactivity. Below.
Corrosion:	None
Special notes on reactivity:	Calcium fluoride: Incompatible with strong acids. Hydrofluoric acid (hydrogen fluoride) may be generated when calcium fluoride comes into contact with these acids. NOTE: This list of products is not exhaustive. Verify technical documents to determine any incompatibilities with your process.
Special notes on corrosion:	No additional notes

11. TOXICOLOGICAL INFORMATION

Routes of entry:	Ingestion, inhalation, eye and skin contact.
Toxicity to animals:	Acute oral toxicity (LD50): 4750mg/Kg (rat) (calcium fluoride)
Chronic effects in humans:	CARCINOGENIC EFFECTS: Not applicable. MUTAGENIC EFFECTS: Not applicable. TERATOGENIC EFFECTS: Not applicable. Toxicity of product to reproductive system: Not applicable. There are no known effects of chronic exposure to this product. It is not known whether repeated or prolonged exposure, under normal working conditions, aggravates medical conditions.

Other toxic effects in humans:	As shipped, this product poses no special health risks. Conditions and working practices that cause raising of dust must be avoided or controlled as these dusts could cause health hazards.
Special notes on toxicity in animals:	No additional notes
Special notes on chronic effects in humans:	Calcium fluoride: the IARC does not consider this product to be carcinogenic. Chronic overexposure can cause increased bone density. This product is irritant for the eyes, skin, nose, throat, and respiratory system. It may cause coughing or chest pain. Crystalline silica: The IARC reports that "the evidence of crystalline silica having a carcinogenic effect on humans is limited". NIOSH (90-11) reports the following organ as a target for acute and chronic overexposure: the respiratory tract. Chronic overexposure to this product may cause shortness of breath. Prolonged inhalation of dust may cause pulmonary fibrosis (silicosis). Calcium carbonate: The IARC does not consider this product to be carcinogenic. There are no reported chronic effects from exposure. This product is irritant for the eyes, skin, nose, throat, and respiratory tract. It may cause sneezing and coughing. In small doses, it is used by humans as an antacid and calcium supplement.
Special notes on other toxic effects in humans:	Workers with the following pre-existing conditions require particular attention: Calcium fluoride: Not applicable Crystalline silica: Tuberculosis Calcium carbonate: Respiratory diseases

12. ECOLOGICAL INFORMATION

Ecotoxicity:	Not available
BOD5 and COD:	Not Available
Biodegradation products:	Not applicable
Toxicity of biodegradation products:	Not applicable
Special notes on the environment:	Calcium fluoride is used to fluorinate drinking water.

13. INFORMATION RELATING TO THE DISPOSAL OF PRODUCTS

Disposal of waste	Recycle, whenever possible. Consult local or regional authorities.

14. TRANSPORT INFORMATION

TDG classification	Not regulated by TDG (Canada)
PIN	Not applicable (PIN and PG)
Special transport provisions	Not applicable
DOT (Pictograms)	

15. OTHER REGULATORY INFORMATION AND PICTOGRAMS

Other Regulations	Our database contains no information or considerations with regard to this product or its ingredients		
Other Classifications	WHIMIS (Canada)	Not controlled under WHMIS (Canada)	
	DSCL (EEC)	Not controlled under DSCL (Europe)	
System of	Health hazard (blue): 1 Fire hazard (red): 0 Reactivity hazard (yellow): 0 Special hazards (white): -	National Fire Protection Association NFPA (USA)	0: Minimal 1: Slight 2: Moderate 3: Serious 4: Extreme
Transportation of Dangerous Goods TDG (Canada) (Pictogram)			
Displacement stability control DSCL (Europe) (Pictogram)			
Restrictions for ADR traffic (Europe) (Pictogram)			
Protective equipment (Pictograms)			

16. OTHER INFORMATION

References:

Handbook on the Toxicology of Metals, 2nd Edition, Frieberg
Sax's Dangerous Properties of Industrial Materials (8th Edition) Van Nostrand
Reomhold CD-ROM Edition 1994
Industrial Hygiene and Toxicology Patty, 3rd edition Revised
Toxicologie Ind. & Intox. Professionnelle, 3rd edition,
Lauwerys
Risk of Chemicals in the workplace, 3rd Edition, Proctor, Hughes IARC
Monographs on the Evaluation of Carcinogenic Risks to Humans (7th
Supplement)
NIOSH - Pocket Guide to Chemical Hazards -June 1994, CSSI -
Toxicological Repertoire, April 1995 (with updates)
ACGIH, TLVs and BEIs 1996
Regulation of Controlled Products
Canadian Centre for Occupational Health and Safety, COINFO disk,
MSDS/FTSS (s. A1)
Guide to Chemistry and Physics, CRC press 74th Edition. 1994-
1995 Merck Index. Merck & Co., Inc. 11th Edition, 1989
TOMES plus® by Micromedex Inc. Toxicologia. Occupational Medicine &
Environmental Series (CD) database Vol. 31, 1996.
Handbook of Toxic and Hazardous Chemicals and Carcinogens, Marshall Sittig, Third Edition, 1991.

Glossary:

IARC:	International Agency for Research on Cancer
CSST:	Commission de la Santé et de la Sécurité du Travail (Quebec)
ACGIH:	American Conference of Governmental Industrial Hygienists.
NTP:	National Toxicology Program of the United States.
NIOSH:	National Institute for Occupational Safety and Health.
OSHA:	Occupational Safety and Health Administration.

Other considerations: No additional notes

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