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Version 5

1. Identification**Product identifier****Product Name** Cal-Brite +**Other means of identification****Product Code** 4133-01 4133-08**UN/ID No.** UN1760**Synonyms** None**Recommended use of the chemical and restrictions on use****Recommended Use** No Information available**Restrictions on use** No Information available**Details of the supplier of the safety data sheet****Supplier Address**Nu-Calgon
2611 Schuetz Road
St. Louis, MO 63043
(800) 554-5499
<http://www.nucalgon.com/>**Emergency telephone number****Emergency Telephone** Chemtrec 1-800-424-9300**2. Hazard(s) identification****Classification of the substance or mixture**

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Causes severe skin burns and eye damage.

Precautionary Statements - Prevention

Do not breathe dust, fume, gas, mist, vapors and spray.

Wash face, hands and any exposed skin thoroughly after handling.

Wear protective gloves, protective clothing, eye protection and face protection.

Precautionary Statements - Response

Specific Treatment (See Section 4 on the SDS).

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash contaminated clothing before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Immediately call a POISON CENTER or doctor.

Rinse mouth.

Do NOT induce vomiting.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable.

10 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

19.7 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available.

Other Information

No information available.

3. Composition/information on ingredients**Substance**

Chemical name	CAS No.	Weight-%	Trade secret
Fluorosilicic Acid	16961-83-4	3 - 7	*
Glycolic Acid	79-14-1	1 - 5	*
Editronic Acid (Phosphonic Acid)	2809-21-4	0.1 - 1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures**Description of first aid measures****General advice**

Immediate medical attention is required.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen. Call a physician or poison control center immediately.

Eye contact

Do not rub affected area. Rinse immediately with plenty of water, also under the eyelids, for

at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. For minor skin contact, avoid spreading material on unaffected skin. For severe burns, immediate medical attention is required.

Ingestion Rinse mouth. Drink 1 or 2 glasses of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Self-protection of the first aider Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11 for additional Toxicological Information.

Effects of Exposure No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. Fire-fighting measures

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment as required.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Dam up. Dike far ahead of liquid spill for later disposal. Prevent product from entering drains. Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. After cleaning, flush away

traces with water.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Use personal protection equipment. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

8. Exposure controls/personal protection

Working area parameters, subject to mandatory control (MAC or TSEL)

Exposure Limits This product, as supplied, contains materials that do not have reportable occupational exposure limits or are not subject to the reporting requirements of the local jurisdiction.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Fluorosilicic Acid 16961-83-4	TWA: 2.5 mg/m ³ F	TWA: 2.5 mg/m ³ F (vacated) TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³ ; F IDLH: 250 mg/m ³ F

Biological occupational exposure limits This product, as supplied, contains materials that do not have reportable biological exposure limits or are not subject to the reporting requirements of the local jurisdiction.

Chemical name	ACGIH
Fluorosilicic Acid 16961-83-4	2 mg/L - urine (Fluoride) - prior to shift 3 mg/L - urine (Fluoride) - end of shift

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Hand protection Protective gloves.

Skin and body protection Impervious clothing. Protective shoes or boots.

Respiratory protection Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance Clear Pink
 Physical state Liquid
 Color Pink
 Odor (includes odor threshold)

Property	Values	Remarks • Method
Melting point/freezing point	No data available	None known
Boiling point (or initial boiling point or boiling range)	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Flash point	No data available	
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
SADT (°C)	No data available	None known
pH	0.5	
pH (as aqueous solution)	0.5	None known
Kinematic viscosity	Not determined	None known
Viscosity	< 25 cP @ 75°F	
Solubility	No data available	None known
Water solubility	No data available	Complete
Partition coefficient n-octanol/water (log value)	No data available	None known
Vapor pressure (includes evaporation rate)	No data available	None known
Evaporation rate	No data available	None known
Density and/or relative density	1.080	
Bulk density	No data available	
Density Lbs/Gal	9.0	
Vapor density	No data available	None known
Particle characteristics		None known
Particle Size	No data available	
Particle Size Distribution	No data available	

Other information

VOC Content (%) 0

10. Stability and reactivity

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid Exposure to air or moisture over prolonged periods.

Incompatible materials Incompatible with oxidizing agents. Incompatible with strong acids and bases.

Hazardous decomposition products Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Corrosive by inhalation.
Eye contact	Corrosive to the eyes and may cause severe damage including blindness.
Skin contact	Corrosive. Contact causes severe skin irritation and possible burns.
Ingestion	May be harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	No information available.
Acute toxicity	No information available.

Numerical measures of toxicity No information available.

The following ATE values have been calculated for the mixture

ATEmix (oral)	5,720.00 mg/kg
ATEmix (dermal)	99,999.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	106.80 mg/l

10 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

19.7 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Fluorosilicic Acid 16961-83-4	= 430 mg/kg (Rat)	-	= 1.11 mg/L (Rat) 1 h
Glycolic Acid 79-14-1	= 1950 mg/kg (Rat) > 5 g/kg (Rat)	-	= 3.6 mg/L (Rat) 4 h
Editronic Acid (Phosphonic Acid) 2809-21-4	= 3130 mg/kg (Rat)	> 10000 mg/kg (Rabbit)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Causes burns.
Serious eye damage/eye irritation	Risk of serious damage to eyes.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Fluorosilicic Acid 16961-83-4	A4 - Not Classifiable as a Human Carcinogen	Group 3	-	-

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Other adverse effects No Information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity The environmental impact of this product has not been fully investigated.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Fluorosilicic Acid 16961-83-4	-	LC50: =65mg/L (96h, <i>Poecilia reticulata</i>) LC50: =28.7mg/L (96h, <i>Pimephales promelas</i>)	-	-
Glycolic Acid 79-14-1	-	LC50: >5000mg/L (96h, <i>Brachydanio rerio</i>)	-	-
Editronic Acid (Phosphonic Acid) 2809-21-4	-	LC50: =868mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =360mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	EC50: =527mg/L (48h, <i>Daphnia magna</i>)

Persistence and degradability No Information available.

Bioaccumulation There is no data for this product.

Chemical name	Partition coefficient
Glycolic Acid 79-14-1	0.3
Editronic Acid (Phosphonic Acid) 2809-21-4	-3.5

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number D002.

California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

14. Transport information

Note: Per CFR 173.154 (b)(2), for corrosive materials in Packaging Group III, this product can ship as Limited Quantity if packaged not over 5.0 L (1.3 gallon) net capacity each for liquids or not over 5.0 kg (11 lbs) net capacity each for solids, packed in a strong outer packaging. Must not exceed 30 kg (66 pounds) gross weight.

DOT

UN/ID No.	UN1760
Proper shipping name	Corrosive liquids, n.o.s.
Hazard Class	8
Packing Group	III
Special Provisions	IB3, T7, TP1, TP28
Description	UN1760, Corrosive liquids, n.o.s. (contains Fluorosilicic Acid and Hydroxyacetic Acid), 8, III
Emergency Response Guide Number	154

TDG

UN/ID No.	UN1760
Proper shipping name	Corrosive liquids, n.o.s.
Hazard Class	8
Packing Group	III
Description	UN1760, Corrosive liquids, n.o.s. (contains Fluorosilicic Acid and Hydroxyacetic Acid), 8, III

IATA

UN number or ID number	UN1760
Proper shipping name	Corrosive liquids, n.o.s.
Transport hazard class(es)	8
Packing Group	III
ERG Code	8L
Description	UN1760, Corrosive liquids, n.o.s. (contains Fluorosilicic Acid and Hydroxyacetic Acid)

IMDG

UN number or ID number	UN1760
Proper shipping name	Corrosive liquids, n.o.s.
Hazard Class	8
Packing Group	III
Special Provisions	223, 274
EmS-No.	EmS F-A, S-B
Description	UN1760, Corrosive liquid, n.o.s.(contains Fluorosilicic Acid and Hydroxyacetic Acid)

15. Regulatory information

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA Complies.

DSL/NDL	Complies.
EINECS/ELINCS	Not determined.
ENCS	Not determined.
IECSC	Not determined.
KECL	Not determined.
PICCS	Not determined.
AIIC	Not determined.
NZIoC	Not Determined .
TCSI	Not Determined .

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AIIC - Australian Inventory of Industrial Chemicals

NZIoC - New Zealand Inventory of Chemicals

TCSI - Taiwan Chemical Substance Inventory

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CAA (Clean Air Act)

This product does not contain any substances regulated as pollutants pursuant to Clean Air Act (CAA).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

WARNING: This product can expose you to chemicals including 9-(2-carboxyphenyl)-3,6-bis(diethylamino)xanthyliumchloride, which is known to the state of California to cause cancer. For More Information go to www.P65Warnings.ca.gov.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Fluorosilicic Acid 16961-83-4	X	X	-
Phosphonic Acid 13598-36-2	X	-	-

U.S. EPA Label Information

EPA Pesticide Registration Number Not Applicable

16. Other information

NFPA	Health hazards 3	Flammability 0	Instability 0	Special hazards -
HMIS	Health hazards 3	Flammability 0	Physical hazards 0	Personal protection C

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Europe)
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road (Europe)
AIIC	Australian Inventory of Industrial Chemicals
ATE	Acute Toxicity Estimate
ASTM	American Society for the Testing of Materials
bar	Biological Reference Values for Chemical Compounds in the Work Area
BAT	Biological tolerance values for occupational exposure
BEL	Biological exposure limits
bw	Body weight
Ceiling	Maximum limit value
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DOT	Department of Transportation (United States)
DSL	Domestic Substances List (Canada)
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
EPA	Environmental Protection Agency
GHS	Globally Harmonized System
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Organization for Standardization
KECI	Korean Existing Chemicals Inventory
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
n.o.s.	Not Otherwise Specified
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No Observed Adverse Effect Level

NOELR	No Observable Effect Loading Rate
NTP	National Toxicology Program (United States)
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Cooperation and Development
OEL	Occupational exposure limits
OSHA	Occupational Safety and Health Administration of the US Department of Labor
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
PMT	Persistent, Mobile and Toxic
PPE	Personal protective equipment
QSAR	Quantitative Structure Activity Relationship
RID	Agreement concerning the International Carriage of Dangerous Goods by Rail (Europe)
SADT	Self-Accelerating Decomposition Temperature
SAR	Structure-activity relationship
SARA	Superfund Amendments and Reauthorization Act
SDS	Safety Data Sheet
SL	Surface Limit
STEL	Short Term Exposure Limit
STOT RE	Specific target organ toxicity - Repeated exposure
STOT SE	Specific target organ toxicity - Single exposure
TCSI	Taiwan Chemical Substance Inventory
TDG	Transport of Dangerous Goods (Canada)
TSCA	Toxic Substances Control Act (United States)
TWA	Time-Weighted Average
UN	United Nations
VOC	Volatile organic compounds
vPvB	Very Persistent and Very Bioaccumulative
vPvM	Very Persistent and Very Mobile
As	Allergenic substance
DS	Dermal Sensitizer
Ot	Ototoxicant
pOt	Ototoxicant - potential to cause hearing disorders
PS	Photosensitizer
RS	Respiratory Sensitizer
S	Sensitizer
poS	Sensitizer - capable of causing occupational asthma
Sa	Simple asphyxiant
Sd	Skin designation
pSd	Skin designation - potential for cutaneous absorption
Sdv	Skin designation - vacated
Sk	Skin notation
dSk	Skin notation - danger of cutaneous absorption
pSk	Skin notation - potential for cutaneous absorption

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 Environmental Protection Agency
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 National Institute of Technology and Evaluation (NITE)
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet