



Material Safety Data Sheet

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1. COMPANY AND PRODUCT IDENTIFICATION

Product code: 011374-02 01
Product name: QUAKER FORMULA® 86 CF

Supplier:
Quaker Chemical Corporation
Quaker Park One
901 Hector Street
Conshohocken, PA 19428
610-832-4000
E-mail: she@quakerchem.com

Emergency telephone number:
* 24 HOUR TRANSPORTATION:
**CHEMTREC: 1-800-424-9300
703-527-3887 (Call collect outside of US)
* 24 HOUR EMERGENCY HEALTH & SAFETY:
**QUAKER CHEMICAL CORPORATION: (800) 523-7010
(Within US only)
Outside of US call (703) 527-3887

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS

Components	Weight %	CAS No.	OSHA TWA (final):	ACGIH Exposure Limits:
Hexafluorozirconic Acid	1 - 5%	12021-95-3	3mg/m ³ 3mg/m ³	10mg/m ³ STEL 10mg/m ³ STEL 5 mg/m ³ 5 mg/m ³
Hydrofluoric Acid	<1%	7664-39-3	3ppm	None

3. HAZARDS IDENTIFICATION

Emergency Overview

Harmful in contact with skin and if swallowed.
Causes severe irritation of eyes, skin and mucous membranes
Risk of serious damage to eyes
Irritating to respiratory system.

Principle routes of exposure: Eyes, skin and inhalation.

Signal word: DANGER

Eye contact: Causes eye burns. Risk of serious damage to eyes.

Skin contact: Causes skin burns.

Inhalation: Avoid breathing vapors or mists. High gas, vapor, mist, or dust concentrations may be harmful if inhaled. May cause irritation of respiratory tract.

Ingestion: Ingestion causes burns of the upper digestive and respiratory tracts.

Physico-chemical properties: No hazards resulting from material as supplied.

4. FIRST AID MEASURES

General advice: Take off all contaminated clothing immediately.. Rinse immediately with plenty of water and seek medical advice..

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Treat with 0.5% pontocaine hydrochloride solution followed by a second irrigation.

Skin contact: Rinse with plenty of water. Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. If available, use compresses of a 0.13% solution of Zephiran Hydrochloride or Sodium Gluconate. Change Compresses every 2 or 3 minutes. Seek medical attention as soon as possible regardless of how minor the burn may appear initially..

Ingestion: Immediately give large quantities of water to drink. Do not induce vomiting. Consult a physician.

Inhalation: Move to fresh air in case of accidental inhalation of vapors. If not breathing, give artificial respiration. Call a physician immediately.

Notes to physician: Treat symptomatically.

Medical condition aggravated by exposure: None known.

5. FIRE-FIGHTING MEASURES

Flash point (°C): NA

Flash point (°F): NA

Flash Point Method: Not applicable

Flammable limits in air - lower (%): Not determined

Flammable limits in air - upper (%): Not determined

Suitable extinguishing media:

Use dry chemical, CO2, water spray or 'alcohol' foam.

Specific hazards:

In the event of fire toxic fumes may be formed.

Unusual hazards:

None known

Special protective equipment for fire-fighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Specific methods:

Water mist may be used to cool closed containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing

Environmental precautions: Do not flush into surface water or sanitary sewer system.

Methods for cleaning up:

Neutralise with mild alkali. Dilute with plenty of water.. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).. wear personal protective equipment.

7. HANDLING AND STORAGE

Handling

Technical measures/precautions: Provide sufficient air exchange and/or exhaust in work rooms.

Safe handling advice: In case of insufficient ventilation, wear suitable respiratory equipment.

Storage

Technical measures/storage conditions: Store at room temperature in the original container

Incompatible products: Do not store near acids.

Safe storage temperature: 4 - 40 °C

Shelf life: 6 months

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components	ACGIH Exposure Limits:	OSHA TWA (final):	NIOSH - Pocket Guide - TWAs:	Vendor Exposure Limits:
Hexafluorozirconic Acid	10mg/m³STEL 10mg/m³STEL 5 mg/m³ 5 mg/m³	3mg/m³ 3mg/m³	10mg/m³STEL 10mg/m³STEL 5mg/m³TWA 5mg/m³TWA	
Hydrofluoric Acid		3ppm	2.5mg/m³TWA 3ppmTWA 5mg/m³Ceiling 6ppmCeiling	

Engineering measures: Ensure adequate ventilation.

Personal Protective Equipment

General: Eye Wash and Safety Shower

Respiratory protection: In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Hand protection: Rubber gloves, Impervious gloves

Skin and body protection: Chemical resistant apron. Long sleeved clothing.

Eye protection: Goggles.

Hygiene measures: Avoid contact with skin, eyes and clothing.



9. PHYSICAL AND CHEMICAL PROPERTIES:

Physical state:	Liquid.
Color:	clear, amber
Odour:	Characteristic
Boiling point/range (°C):	>100
Boiling point/range (°F):	>212
Vapour density:	Not determined
Vapour pressure:	Not determined
Solubility:	Completely soluble
Evaporation rate:	Not determined
VOC Content Product:	Not determined
pH:	1.4-2.0
Flash point (°C):	NA
Flash point (°F):	NA
Decomposition temperature:	Not determined
Autoignition temperature:	Not determined
Density @ 15.5 ° C (g/cc) :	1.019@60F
Bulk density @ 60 ° F (lb/gal):	8.50
Partition coefficient (n-octanol/water, log Pow):	Not determined
Explosive properties:	
- upper limit:	No data available
- lower limit:	No data available

10. STABILITY AND REACTIVITY

Conditions to avoid:

None known

Materials to avoid:

Alkali metals, Strong oxidising agents

Hazardous decomposition products:

None under normal use

Stability:

Stable under recommended storage conditions.

Polymerization:

Not applicable

11. TOXICOLOGICAL INFORMATION

No toxicological information is available on the product. Data obtained on components are summarized below.

Components	NTP:	IARC:	OSHA - Select Carcinogens	NIOSH - Selected LD50s and LC50s
Hexafluorozirconic Acid	This product does not contain any material shown to be a carcinogen by the National Toxicology Program (NTP).	This product does not contain any material shown to be a carcinogen by the International Agency for Research on Cancer (IARC).	This product does not contain any material shown to be a carcinogen by OSHA.	
Hydrofluoric Acid	This product does not contain any material shown to be a carcinogen by the National Toxicology Program (NTP).	This product does not contain any material shown to be a carcinogen by the International Agency for Research on Cancer (IARC).	This product does not contain any material shown to be a carcinogen by OSHA.	1276ppmInhalation LC50Rat 342ppmInhalation LC50Mouse

12. ECOLOGICAL INFORMATION

Persistence and degradability:	No information available
Mobility:	No data available
Bioaccumulation:	No data available
Ecotoxicity effects:	No data available
Aquatic toxicity:	Not Determined

13. DISPOSAL CONSIDERATIONS

Waste from residues/unused products:

Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

Contaminated packaging:

Do not re-use empty containers

Methods for cleaning up:

Neutralise with mild alkali. Dilute with plenty of water.. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).. wear personal protective equipment.

Components

Hydrofluoric Acid
7664-39-3

RCRA - U Series Wastes waste number U134 (Corrosive waste, Toxic waste)

RCRA - Hazardous Constituents waste number U134

-Appendix

14. TRANSPORT INFORMATION

U. S. DEPARTMENT OF TRANSPORTATION:

Proper shipping name:

Corrosive liquid, toxic, N.O.S. (contains hydrofluorizirconic acid)

D.O.T. Hazard Class(es) 8
Subsidiary risk: 6.1
UN/NA ID Number: 2922
Packing group: II
RQ:
Emergency Response Guide Number: 154
DOT Label(s):

TDG (CANADA):

Proper shipping name: Corrosive liquid, toxic, N.O.S. (contains hydrofluorizirconic acid)
TDG Hazard Classification: 8
Subsidiary class(s):
UN Number: 2922
Packaging group: II

IMDG/IMO:

Proper shipping name: Corrosive liquid, toxic, N.O.S. (contains hydrofluorizirconic acid)
Class: 8
Subsidiary:
UN Number: 2922
Packaging group: II
EMS:

IATA/ICAO:

Proper shipping name: Corrosive liquid, toxic, N.O.S. (contains hydrofluorizirconic acid)
IATA - Hazard Classifications: 8
Subsidiary class(s):
UN Number: 2922
Packaging group: II

15. REGULATORY INFORMATION

CLASSIFICATION AND LABELING

OSHA Hazard Communication Standard: This product is considered to be hazardous.

Canada - WHMIS Classification Information: This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Product Classification Graphic(s):



Component Classification Data:

Hexafluorozirconic Acid - 12021-95-3

WHMIS hazard class: D2B
Uncontrolled product according to WHMIS classification criteria.

Hydrofluoric Acid - 7664-39-3

WHMIS hazard class: D1A; E

U.S. REGULATIONS:

SARA (311, 312) hazard class: This product possesses the following SARA Hazard Categories:

Immediate Health (Acute): Yes
Delayed Health (Chronic): No
Flammability: No
Pressure: No
Reactivity: No

Hydrofluoric Acid - 7664-39-3

CERCLA/SARA - Section 302 Extremely Hazardous Listed
Substances and TPQs:

Hydrofluoric Acid - 7664-39-3

CERCLA/SARA 313 Emission reporting Listed

RCRA Status To be disposed of as hazardous waste
characteristic:
corrosive D002

Hydrofluoric Acid - 7664-39-3

CAA - 1990 Hazardous Air Pollutants: Listed

STATE REGULATIONS (RTK):

California Proposition 65 Status: No components are listed

Hexafluorozirconic Acid - 12021-95-3

MARTK: Present
NJRTK: sn 2047
PARTK: [present] as well as its powder

Hydrofluoric Acid - 7664-39-3

MARTK: Extraordinarily hazardous
NJRTK: sn 1014
PARTK: environmental hazard

INVENTORY STATUS:

United States TSCA - Sect. 8(b) Inventory: This product complies with TSCA

Canada DSL Inventory List -	This product complies with DSL
Canada NDSL Inventory List -	NDSL compliance has not been determined
Canadian Inventory Status:	The components of this product are listed on the DSL, the NDSL or are not required to be listed.
EU EINECS/ELINCS/NLP list:	This product complies with EINECS

16. OTHER INFORMATION

Sources of key data used to compile the data sheet:	Material safety data sheets of the ingredients.
Reason for revision:	New Format
Prepared by:	Quaker Chemical Corporation -Safety, Health and Environmental Affairs Group - US
<u>HMIS classification:</u>	<u>NFPA rating:</u>
Health: 3	Health: 3
Flammability: 0	Flammability: 0
Reactivity: 1	Reactivity: 1
Personal Protection: H	Special: NA

* Indicates possible chronic health effect

Personal protection recommendations should be reviewed by purchasers. Workplace conditions are important factors in specifying adequate protection.

Disclaimer:

This product's safety information is provided to assist our customers in assessing compliance with safety/health/environmental regulations. The information contained herein is based on data available to us and is believed to be accurate. However, no warranty of merchantability, fitness for any use, or any other warranty is expressed or implied regarding the accuracy of this data, the results to be obtained from the use thereof, or the hazards connected with the use of the product. Since the use of this product is within the exclusive control of the user, it is the user's obligation to determine the conditions for safe use of the product. Such conditions should comply with all regulations concerning the product. Quaker Chemical Corporation ("Quaker") assumes no liability for any injury or damage, direct or consequential, resulting from the use of this product unless such injury or damage is attributable to the gross negligence of Quaker.

End of Safety Data Sheet