World Headquarters
Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

MSDS No: M01981

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: Fluoride Vial Reagent
Catalog Number: HCT132R

HACH LANGE GmbH
Willstätterstrasse 11
40549 Düsseldorf, Germany
+49-(0)211-52880

Emergency Telephone Numbers:
(Poison Information Center Main)
(+49 (0) 6131 19240) 24 HR

SDS Number: M01981
Chemical Name: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Use of the substance/preparation: Determination of fluoride
CAS No.: Not applicable
Hazard: Causes eye burns.
Date of MSDS Preparation:
Day: 13
Month: 01
Year: 2006
Additional Emergency Response Numbers: Austria : +49 (0)6131 19240, Belgium: +32 -(0)70-245245, France: +33 (0)1-40370404, Italy: +39 -02-66101029, Netherlands: +31 -(0)30-2748888, Switzerland: +41 -(0)1-2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Hydrochloric Acid
EEC Number: 231-595-7
CAS No.: 7647-01-0
Percent Range: 1,0 - 5,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: 5 ppm ceiling
PEL: 5 ppm ceiling
EU Occupational Exposure Limits: Hydrogen chloride: 5 ppm (8 mg/m^3); STEL 10 ppm (15 ^{3})

Demineralized Water
EEC Number: 231-791-2
CAS No.: 7732-18-5
Percent Range: 90,0 - 100,0
Percent Range Units: volume / volume
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: Not established

Other components, each
EEC Number: Not applicable
CAS No.: Not applicable
Percent Range: < 0,1
Percent Range Units: weight / volume

Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: Not estab lished
PEL: Not established
EU Occupational Exposure Limits: Not established

3. HAZARDS IDENTIFICATION

Emergency Overview:
Appearance: Clear, colorless liquid
Odor: Irritating
EU Symbols: Not applicable
R PHRASES: Not applicable

Protective Equipment:
Potential Health Effects:
Eye Contact (EC): May cause irritation
Skin Contact (EC): May cause: redness
Skin Absorption (EC): None Reported
Target Organs (SA E): None Reported
Ingestion (EC): Can cause: vomiting abdominal pain nausea
Target Organs (Ing E): None Reported
Inhalation: May cause: respiratory tract irritation pneumonitis teeth erosion
Target Organs (Inh E): None Reported
Medical Condi tions Aggravated: Pre -existing: Respiratory conditions
Chronic Effects: Chronic overexposure may cause erosion of the teeth
Cancer / Reproductive Toxicity Information:
An ingredient of this mixture is: IARC Group 3: Non -classifiable
Hy drochloric acid
Additional Cancer / Reproductive Toxicity Information: None reported
Toxicologically Synergistic Products: None reported

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.
Skin Contact (First Aid): Wash skin with plenty of water.
Ingestion (First Aid): Do not induce vomiting. Give 1 -2 glasses of water. Never give anything by mouth to an unconsciou s person. Call physician immediately.
Inhalation: Remove to fresh air.

5. FIRE FIGHTING MEASURES

Flammable Properties: During a fire, corrosive and toxic gases may be generated by thermal decomposition.
Hazardous Combustion Products: This material will not burn.
Fire / Explosion Hazards: Contact with metals gives off hydrogen gas which is flammable
Static Discharge: None reported.
Mechanical Impact: None reported
Extinguishing Media: Use med ia appropriate to surrounding fire conditions
Extinguishing Media NOT To Be Used: Not applicable
Fire Fighting Instruction: As in any fire, wear self -contained breathing apparatus pressure -demand and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:
Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for d isposal assistance.
Containment Technique: Absorb spilled liquid with non -reactive sorbent material. Stop spilled material from being released to the environment.

Clean -up Technique: Cover spilled material with an alkali, such as soda ash or sodiu m bicarbonate. Scoop up slurry into a large beaker. Dilute with a large excess of water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Flush reacted material to the drain with a large excess of water. Decontami nate the area of the spill with a soap solution.
Evacuation Procedure: Evacuate local area (15 foot radius or as directed by your facility's emergency response plan) when: a gallon or more of liquid is spilled. If conditions warrant, increase the siz e of the evacuation.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes Do not breathe mist or vapors. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.
Storage: Store in a cool, dry place. Keep away from: alkalies metals
Special Packag ing Instructions: Not applicable
Use of the substance/preparation: Determination of fluoride

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Maintain gen eral industrial hygiene practices when using this product.
Personal Protective Equipment:
Eye Protection: chemical splash goggles
Skin / Hand Protection: disposable latex gloves lab coat
Inhalation Protection: adequate ventilation
Precautio nary Measures: Avoid contact with: eyes Do not breathe: mist/vapor Wash thoroughly after handling. Keep away from: alkalies metals
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits:

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid
Physical State: Liquid
Odor: Irritating
pH: 1
Vapor Pressure: Not determined
Vapor Density (air = 1): Not determined
Boiling Point: Not determined
Melting Point: Not determined
Flash Point: Not applicable
Method: Not applicable
Autoignition Temperature: Not applicable
Flammability Limits:
Lower Explosion Limits: Not applicable
Upper Explosion Limits: Not applicable
Specific Gravity (water = 1): 1,0
Evaporation Rate (water = 1): Not determined
Volatile Organic Compounds Content: Not applicable
Partition Coefficient (n -octanol / water): Not applicable
Solubility:
Water: Miscible
Acid: Miscible
Other: Not determined
Metal Corrosivity:
Stee l: Not determined
Aluminum: Not determined

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.

Conditions to Avoid: Heating to decomposition.
Reactivity / Incompatib ility: Incompatible with: strong bases
Hazardous Decomposition: Contact with metals may release flammable hydrogen gas.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:
LD50: None reported
LC50: None reported
Dermal Toxicity Data: None reported
Skin and Eye Irritation Data: None reported
Mutation Data: None reported
Reproductive Effects Data: None reported
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Ingredient Toxicolo gical Data: Hydrochloric Acid: Oral rabbit LD50 = 900 mg/kg, Inhalation rat LC50 = 3124 ppm/1H

An ingredient of this mixture is: IARC Group 3: Non -classifiable
Hydrochloric acid

12. ECOLOGICAL INFORM ATION

Product Ecological Information: --
No ecological data available for this product.
Ingredient Ecological Information: HCl: LC100 trout = 10 mg/L 24H, LC50 shrimp 100 -330 ppm/48H (saltwater), LC50 starfish 100 -330 mg/L 24H, LC50 cockle 330 -1000mg/L 48H, TLm mosquito fish = 282 ppm/96H, LC50 goldfish = 178 mg/L

13. DISPOSAL CONSIDERATIONS

NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more str ingent state or local requirements. Please consult your local environmental regulators for more information. In Europe: Chemical and analysis solutions must be disposed of in compliance with the respective national regulations. Product packaging must be disposed of in compliance with the country -specific regulations or must be passed to a packaging return system.

14. TRANSPORT INFORMATION

I.C.A.O.:
I.C.A.O. Proper Shipping Name: Not Currently Regulated
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ICAO Hazard Class: NA
ICAO Subsidiary Risk: NA
ICAO UN/ID Number: NA
ICAO Packing Group: NA
I.M.O.:
I.M.O. Proper Shipping Name: Not Currently Regulated
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I.M.O. Hazard Class: NA
I.M.O. Subsidiary Risk: NA
I.M.O. UN Number: NA
I.M.O. Packing Group: NA
A.D.R.:
A.D.R. Proper Shipping Name: Not Currently Regulated

A.D.R Hazard Class: NA
A.D.R. Subsidiary Risk: NA
A.D.R. UN -Number:: NA
A.D.R. Packing Group: NA

Additional Information: This product may be shippedas part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit Hazard Class: 9 UN Number 3316

15. REGULATORY INFORMATION

National Inventories:
EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.
EEC Number: Not applicable
EEC LABEL COPY:
EU Symbols: Not applicable
R PHRASES: Not applicable
S PHRASES: Not applicable

16. OTHER INFORMATION

References: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thurs day, January 19, 1989. pp. 2332 -2983. TLV's Threshold Limit Values and Biological Exposure Indices for 1992 -1993. American Conference of Governmental Industrial Hygienists, 1992. Technical Judgment. Outside Testing. NIOSH/OSHA Occupational Health Gui delines for Chemical Hazards. Cincinnati: Department of Health and Human Services, 1981.
R PHRASES: Not applicable
Use of the substance/preparation: Determination of fluoride
Revision Summary: Updates in Section(s) 14,

Legend:

NA - Not Applicable	w/w - weight/weight
ND - Not Determined	w/v - weight/volume
NV - Not Available	v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individua l site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.