



**Be Right™**

# SAFETY DATA SHEET

Issue Date 04-May-2021

Revision Date 26-Jan-2024

Version 5

Page 1 / 17

## 1. IDENTIFICATION

**Product identifier**

**Product Name** Fluoride Standard Solution 0.5 mg/l as F

**Other means of identification**

**Product Code(s)** 40505

**Safety data sheet number** M00606

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Standard solution. Water Analysis.

**Uses advised against** Consumer use.

**Restrictions on use** For Laboratory Use Only.

**Details of the supplier of the safety data sheet**

**Manufacturer Address**

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

**Emergency telephone number**

+1(303) 623-5716 - 24 Hour Service

## 2. HAZARDS IDENTIFICATION

**Classification**

**Regulatory Status**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Hazards not otherwise classified (HNOC)**

Not applicable

**Label elements**

**Signal word**

None

**Hazard statements**

The product contains no substances which at their given concentration, are considered to be hazardous to health

**Other Hazards Known**

None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**  
Not applicable

**Mixture**

**Chemical Family** Mixture.  
**Chemical nature** aqueous solution.

Percent ranges are used where confidential product information is applicable.

| Chemical name   | CAS No    | Percent Range | HMRIC # |
|-----------------|-----------|---------------|---------|
| Formaldehyde    | 50-00-0   | <0.1%         | -       |
| Methanol        | 67-56-1   | <0.1%         | -       |
| Sodium fluoride | 7681-49-4 | <0.01%        | -       |

#### 4. FIRST AID MEASURES

**Description of first aid measures**

**General advice** No hazards which require special first aid measures. Use first aid treatment according to the nature of the injury.

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** See Section 11 for additional Toxicological Information.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

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

**Unsuitable Extinguishing Media** Caution: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical** No information available.

**Hazardous combustion products** No information available.

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

#### 6. ACCIDENTAL RELEASE MEASURES

**U.S. Notice** Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional ecological information.

**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** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

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

**Reference to other sections** See section 8 for more information. See section 13 for more information.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Flammability class** Not applicable

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**

| Chemical name                 | ACGIH TLV   | OSHA PEL   | NIOSH  |
|-------------------------------|---|--|--|
| Formaldehyde<br>CAS#: 50-00-0 | dermal sensitizer;respiratory sensitizer<br>STEL: 0.3 ppm<br>TWA: 0.1 ppm | TWA: 0.75 ppm<br>(vacated) TWA: 3 ppm<br>(vacated) STEL: 10 ppm<br>(vacated) Ceiling: 5 ppm<br>STEL: 2 ppm   | IDLH: 20 ppm<br>Ceiling: 0.1 ppm 15 min<br>TWA: 0.016 ppm  |
| Methanol<br>CAS#: 67-56-1     | STEL: 250 ppm<br>TWA: 200 ppm<br>S*                                       | TWA: 200 ppm<br>TWA: 260 mg/m <sup>3</sup><br>(vacated) TWA: 200 ppm<br>(vacated) TWA: 260 mg/m <sup>3</sup><br>(vacated) STEL: 250 ppm<br>(vacated) STEL: 325 mg/m <sup>3</sup><br>(vacated) SKN* | IDLH: 6000 ppm<br>TWA: 200 ppm<br>TWA: 260 mg/m <sup>3</sup><br>STEL: 250 ppm<br>STEL: 325 mg/m <sup>3</sup> |
| Sodium fluoride               | TWA: 2.5 mg/m <sup>3</sup> F  | TWA: 2.5 mg/m <sup>3</sup>   | IDLH: 250 mg/m <sup>3</sup> F  |

|                 |                                      |                              |
|-----------------|--------------------------------------|------------------------------|
| CAS#: 7681-49-4 | (vacated) TWA: 2.5 mg/m <sup>3</sup> | TWA: 2.5 mg/m <sup>3</sup> F |
|-----------------|--------------------------------------|------------------------------|

**Appropriate engineering controls**

**Engineering Controls**

Showers  
 Eyewash stations  
 Ventilation systems. Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Individual protection measures, such as personal protective equipment**

**Respiratory protection**

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Ensure adequate ventilation.

**Hand Protection**

Wear suitable gloves. Barrier creams may help to protect the exposed areas of skin. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016.

**Eye/face protection**

Wear safety glasses with side shields (or goggles).

**Skin and body protection**

No special protective equipment required. Avoid contact with eyes, skin and clothing.

**General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls**

Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

**Thermal hazards**

None under normal processing.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

|                       |                  |                       |                          |
|-----------------------|------------------|-----------------------|--------------------------|
| <b>Physical state</b> | Liquid           | <b>Color</b>          | colorless                |
| <b>Appearance</b>     | aqueous solution | <b>Odor threshold</b> | No information available |
| <b>Odor</b>           | Odorless         |                       |                          |

| <u>Property</u>                                | <u>Values</u>                            | <u>Remarks • Method</u> |
|--|--|-------------------------|
| <b>Molecular weight</b>                        | No data available                        |                         |
| <b>pH</b>                                      | ~ 7                                      | @ 20 °C                 |
| <b>Melting point / freezing point</b>          | ~ 0 °C / 32 °F                           |                         |
| <b>Initial boiling point and boiling range</b> | ~ 100 °C / 212 °F                        |                         |
| <b>Evaporation rate</b>                        | 0.76 (water = 1)                         |                         |
| <b>Vapor pressure</b>                          | 23.777 mm Hg / 3.17 kPa at 25 °C / 77 °F |                         |
| <b>Relative vapor density</b>                  | 0.62                                     |                         |
| <b>Specific gravity - VALUE 1</b>              | 0.986                                    |                         |
| <b>Partition coefficient</b>                   | Not applicable                           |                         |
| <b>Soil Organic Carbon-Water Partition</b>     | Not applicable                           |                         |

**Product Code(s)** 40505  
**Issue Date** 04-May-2021  
**Version** 5

**Product Name** Fluoride Standard Solution 0.5 mg/l as F  
**Revision Date** 26-Jan-2024  
**Page** 5 / 17

**Coefficient**  
**Autoignition temperature** No data available  
**Decomposition temperature** No information available  
**Dynamic viscosity** No information available  
**Kinematic viscosity** No information available

**Solubility(ies)**

**Water solubility**

| <u>Water solubility classification</u> | <u>Water solubility</u> | <u>Water Solubility Temperature</u> |
|--|-------------------------|-------------------------------------|
| Soluble                                | > 1000 mg/L             | 25 °C / 77 °F                       |

**Solubility in other solvents**

| <u>Chemical Name</u> | <u>Solubility classification</u> | <u>Solubility</u> | <u>Solubility Temperature</u> |
|----------------------|----------------------------------|-------------------|-------------------------------|
| Acid                 | Soluble                          | > 1000 mg/L       | 25 °C / 77 °F                 |

**Other information**

**Metal Corrosivity**

**Steel Corrosion Rate** No data available  
**Aluminum Corrosion Rate** No data available

**Volatile Organic Compounds (VOC) Content**

See ingredients information below

| <b>Chemical name</b> | <b>CAS No</b> | <b>Volatile organic compounds (VOC) content</b> | <b>CAA (Clean Air Act)</b> |
|----------------------|---------------|---|----------------------------|
| Formaldehyde         | 50-00-0       | No data available                               | X                          |
| Methanol             | 67-56-1       | 100%  | X                          |
| Sodium fluoride      | 7681-49-4     | Not applicable                                  | -                          |

**Explosive properties**

**Upper explosion limit** Not applicable  
**Lower explosion limit** Not applicable

**Flammable properties**

**Flash point** No data available

**Flammability Limit in Air**

**Upper flammability limit:** No data available  
**Lower flammability limit:** No data available

**Oxidizing properties**

No data available.

**Bulk density**

Not applicable

**10. STABILITY AND REACTIVITY**

**Product Code(s)** 40505  
**Issue Date** 04-May-2021  
**Version** 5

**Product Name** Fluoride Standard Solution 0.5 mg/l as F  
**Revision Date** 26-Jan-2024  
**Page** 6 / 17

**Reactivity**

Not applicable.

**Chemical stability**

Stable under normal conditions.

**Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Possibility of hazardous reactions**

None under normal processing.

**Hazardous polymerization**

None under normal processing.

**Conditions to avoid**

None known based on information supplied.

**Incompatible materials**

Strong oxidizing agents, strong acids, and strong bases.

**Hazardous decomposition products**

No information available.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

**Inhalation** No known effect based on information supplied.

**Eye contact** No known effect based on information supplied.

**Skin contact** No known effect based on information supplied.

**Ingestion** No known effect based on information supplied.

**Symptoms** No information available.

**Acute toxicity**

Based on available data, the classification criteria are not met

**Mixture**

No data available.

**Ingredient Acute Toxicity Data**

Test data reported below.

**Oral Exposure Route**

| Chemical name                                  | Endpoint type           | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|-------------------------|---------------|---------------|-----------------------|--|
| Formaldehyde<br>(<0.1%)<br>CAS#: 50-00-0       | Rat<br>LD <sub>50</sub> | 100 mg/kg     | None reported | None reported         | GESTIS   |
| Sodium fluoride<br>(<0.01%)<br>CAS#: 7681-49-4 | Rat<br>LD <sub>50</sub> | 52 mg/kg      | None reported | None reported         | GESTIS   |

#### Dermal Exposure Route

| Chemical name                               | Endpoint type           | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---|-------------------------|---------------|---------------|-----------------------|--|
| Formaldehyde (<0.1%)<br>CAS#: 50-00-0       | Rabbit LD <sub>50</sub> | 270 mg/kg     | None reported | None reported         | GESTIS   |
| Sodium fluoride (<0.01%)<br>CAS#: 7681-49-4 | Rat LD <sub>50</sub>    | 175 mg/kg     | None reported | None reported         | ERMA   |

#### Inhalation (Dust/Mist) Exposure Route

| Chemical name                         | Endpoint type        | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---------------------------------------|----------------------|---------------|---------------|-----------------------|--|
| Formaldehyde (<0.1%)<br>CAS#: 50-00-0 | Rat LC <sub>50</sub> | 0.578 mg/L    | 4 hours       | None reported         | LOLI   |

#### Inhalation (Vapor) Exposure Route

#### Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

#### Acute Toxicity Estimations (ATE)

|                               |                          |
|-------------------------------|--------------------------|
| ATEmix (oral)                 | No information available |
| ATEmix (dermal)               | No information available |
| ATEmix (inhalation-dust/mist) | No information available |
| ATEmix (inhalation-vapor)     | No information available |
| ATEmix (inhalation-gas)       | No information available |

#### Skin corrosion/irritation

Based on available data, the classification criteria are not met.

#### Mixture

No data available.

#### Ingredient Skin Corrosion/Irritation Data

Test data reported below.

| Chemical name                         | Test method  | Species | Reported dose | Exposure time | Results                             | Key literature references and sources for data |
|---------------------------------------|--|---------|---------------|---------------|-------------------------------------|--|
| Formaldehyde (<0.1%)<br>CAS#: 50-00-0 | Standard Draize Test   | Human   | 0.150 mg      | 72 hours      | Corrosive to skin                   | RTECS  |
| Methanol (<0.1%)<br>CAS#: 67-56-1     | OECD Test 439: In Vitro Skin Irritation: Reconstructed Human Epidermis (Rhe) Test Method | Rabbit  | None reported | 20 hours      | Not corrosive or irritating to skin | ECHA   |

#### Serious eye damage/irritation

Based on available data, the classification criteria are not met.

#### Mixture

No data available.

**Ingredient Eye Damage/Eye Irritation Data**

Test data reported below.

| Chemical name                               | Test method  | Species | Reported dose | Exposure time | Results                             | Key literature references and sources for data |
|---|--|---------|---------------|---------------|-------------------------------------|--|
| Formaldehyde (<0.1%)<br>CAS#: 50-00-0       | Rinse Test   | Human   | 1 ppm         | 6 minutes     | Corrosive to eyes                   | RTECS  |
| Methanol (<0.1%)<br>CAS#: 67-56-1           | OECD Test 439: In Vitro Skin Irritation: Reconstructed Human Epidermis (Rhe) Test Method | Rabbit  | 0.05 mL       | 24 hours      | Not corrosive or irritating to eyes | ECHA   |
| Sodium fluoride (<0.01%)<br>CAS#: 7681-49-4 | Standard Draize Test   | Rabbit  | 20 mg         | 24 hours      | Eye irritant                        | RTECS  |

**Respiratory or skin sensitization**

Based on available data, the classification criteria are not met.

**Mixture**

No data available.

**Ingredient Sensitization Data**

Test data reported below.

**Skin Sensitization Exposure Route**

| Chemical name                               | Test method                           | Species    | Results                               | Key literature references and sources for data |
|---|---------------------------------------|------------|---------------------------------------|--|
| Formaldehyde (<0.1%)<br>CAS#: 50-00-0       | Patch test                            | Human      | Confirmed to be a skin sensitizer     | ERMA   |
| Methanol (<0.1%)<br>CAS#: 67-56-1           | OECD Test No. 406: Skin Sensitization | Guinea pig | Not confirmed to be a skin sensitizer | ECHA   |
| Sodium fluoride (<0.01%)<br>CAS#: 7681-49-4 | OECD Test No. 406: Skin Sensitization | Guinea pig | Not confirmed to be a skin sensitizer | ECHA   |

**Respiratory Sensitization Exposure Route**

| Chemical name                         | Test method                       | Species    | Results                                  | Key literature references and sources for data |
|---------------------------------------|-----------------------------------|------------|--|--|
| Formaldehyde (<0.1%)<br>CAS#: 50-00-0 | IgE Specific Immune Response Test | Guinea pig | Confirmed to be a respiratory sensitizer | CICAD  |

**STOT - single exposure**

Based on available data, the classification criteria are not met.

**Mixture**

No data available.

**Ingredient Specific Target Organ Toxicity Single Exposure Data**

Test data reported below.

**Oral Exposure Route**

| Chemical name | Endpoint | Reported | Exposure | Toxicological effects | Key literature references and |
|---------------|----------|----------|----------|-----------------------|-------------------------------|
|---------------|----------|----------|----------|-----------------------|-------------------------------|



|  | type                      | dose        | time          |   | sources for data |
|--|---------------------------|-------------|---------------|---|------------------|
| Formaldehyde<br>(<0.1%)<br>CAS#: 50-00-0       | Human<br>LD <sub>Lo</sub> | 70 mg/kg    | None reported | <b>Gastrointestinal</b><br><b>Kidney, Ureter, or Bladder</b><br><b>Liver</b><br>Other changes<br>Ulcerated stomach<br>Other changes | RTECS            |
| Methanol<br>(<0.1%)<br>CAS#: 67-56-1           | Human<br>LD <sub>Lo</sub> | 143 mg/kg   | None reported | <b>Lungs, Thorax, or</b><br><b>Respiration</b><br>Dyspnea   | RTECS            |
| Sodium fluoride<br>(<0.01%)<br>CAS#: 7681-49-4 | Human<br>TD <sub>Lo</sub> | 0.214 mg/kg | None reported | <b>Gastrointestinal</b><br>Changes in structure or function<br>of salivary glands<br>Hypermotility<br>Diarrhea                      | RTECS            |

#### Inhalation (Vapor) Exposure Route

| Chemical name                        | Endpoint type             | Reported dose | Exposure time | Toxicological effects   | Key literature references and sources for data |
|--------------------------------------|---------------------------|---------------|---------------|---|--|
| Methanol<br>(<0.1%)<br>CAS#: 67-56-1 | Human<br>TC <sub>Lo</sub> | 300 mg/L      | None reported | <b>Lungs, Thorax, or</b><br><b>Respiration</b><br>Other changes | RTECS  |

#### STOT - repeated exposure

Based on available data, the classification criteria are not met.

#### Mixture

No data available.

#### Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

#### Oral Exposure Route

| Chemical name                                  | Endpoint type           | Reported dose | Exposure time | Toxicological effects  | Key literature references and sources for data |
|--|-------------------------|---------------|---------------|--|--|
| Methanol<br>(<0.1%)<br>CAS#: 67-56-1           | Monkey                  | 2340 mg/kg    | 3 days        | None reported  | ECHA   |
| Sodium fluoride<br>(<0.01%)<br>CAS#: 7681-49-4 | Rat<br>TD <sub>Lo</sub> | 420 mg/kg     | 42 days       | <b>Brain and Coverings</b><br>Other degenerative changes<br><b>Behavioral</b><br>Somnolence (general depressed<br>activity)<br><b>Blood</b><br>Changes in serum composition<br>(e.g. TP, bilirubin, cholesterol) | RTECS  |

#### Inhalation (Dust/Mist) Exposure Route

| Chemical name                                  | Endpoint type           | Reported dose | Exposure time | Toxicological effects   | Key literature references and sources for data |
|--|-------------------------|---------------|---------------|---|--|
| Sodium fluoride<br>(<0.01%)<br>CAS#: 7681-49-4 | Rat<br>TC <sub>Lo</sub> | 1.0 mg/L      | 119 days      | <b>Biochemical</b><br>Other degenerative changes<br><b>Kidney, Ureter, or Bladder</b><br>Other changes in urine<br>composition<br><b>Musculoskeletal</b><br>Changes in teeth and supporting<br>structures | RTECS  |

**Inhalation (Vapor) Exposure Route**

| Chemical name                         | Endpoint type             | Reported dose | Exposure time | Toxicological effects   | Key literature references and sources for data |
|---------------------------------------|---------------------------|---------------|---------------|---|--|
| Formaldehyde (<0.1%)<br>CAS#: 50-00-0 | Human<br>TC <sub>Lo</sub> | 0.017 mg/L    | 0.5 days      | Eye<br>Lungs, Thorax, or<br>Respiration<br>Lacrimation<br>Other changes | RTECS  |

**Carcinogenicity**

Based on available data, the classification criteria are not met.

**Mixture**

No data available.

**Ingredient Carcinogenicity Data**

Test data reported below.

| Chemical name   | CAS No    | ACGIH | IARC    | NTP   | OSHA |
|-----------------|-----------|-------|---------|-------|------|
| Formaldehyde    | 50-00-0   | A1    | Group 1 | Known | X    |
| Methanol        | 67-56-1   | -     | -       | -     | -    |
| Sodium fluoride | 7681-49-4 | -     | Group 3 | -     | X    |

**Legend**

|  |  |
|--|--|
| <b>ACGIH (American Conference of Governmental Industrial Hygienists)</b> | Does not apply                                   |
| <b>IARC (International Agency for Research on Cancer)</b>                | Group 3 - Not classifiable as a human carcinogen |
| <b>NTP (National Toxicology Program)</b>                                 | Does not apply                                   |
| <b>OSHA</b>  | X - Present                                      |

**Oral Exposure Route**

| Chemical name                               | Endpoint type             | Reported dose | Exposure time | Toxicological effects         | Key literature references and sources for data |
|---|---------------------------|---------------|---------------|-------------------------------|--|
| Sodium fluoride (<0.01%)<br>CAS#: 7681-49-4 | Mouse<br>TD <sub>Lo</sub> | 14 mg/kg      | 43 weeks      | Skin and Appendages<br>Tumors | RTECS  |

**Inhalation (Vapor) Exposure Route**

| Chemical name                         | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---------------------------------------|---------------|---------------|---------------|-----------------------|--|
| Formaldehyde (<0.1%)<br>CAS#: 50-00-0 | Rat           | 15 mg/L       | 78 weeks      | Olfaction<br>Tumors   | RTECS  |

**Germ cell mutagenicity**

Based on available data, the classification criteria are not met.

**Mixture invitro Data**

No data available.

**Substance invitro Data**

Test data reported below.

| Chemical name | Test | Cell Strain | Reported dose | Exposure time | Results | Key literature references and sources for data |
|---------------|------|-------------|---------------|---------------|---------|--|
|               |      |             |               |               |         |  |

**Product Code(s)** 40505  
**Issue Date** 04-May-2021  
**Version** 5

**Product Name** Fluoride Standard Solution 0.5 mg/l as F  
**Revision Date** 26-Jan-2024  
**Page** 11 / 17

|  |                      |                  |            |               |                                       |       |
|--|----------------------|------------------|------------|---------------|---------------------------------------|-------|
| Methanol<br>(<0.1%)<br>CAS#: 67-56-1           | DNA inhibition       | Human lymphocyte | 300 mmol/L | None reported | Positive test result for mutagenicity | RTECS |
| Sodium fluoride<br>(<0.01%)<br>CAS#: 7681-49-4 | Cytogenetic analysis | Human fibroblast | 20 mg/L    | None reported | Positive test result for mutagenicity | RTECS |

**Mixture in vivo Data**

No data available.

**Substance in vivo Data**

Test data reported below.

**Oral Exposure Route**

| Chemical name                                  | Test                 | Species | Reported dose | Exposure time | Results                               | Key literature references and sources for data |
|--|----------------------|---------|---------------|---------------|---------------------------------------|--|
| Methanol<br>(<0.1%)<br>CAS#: 67-56-1           | DNA damage           | Rat     | 0.405 mg/kg   | None reported | Positive test result for mutagenicity | RTECS  |
| Sodium fluoride<br>(<0.01%)<br>CAS#: 7681-49-4 | Cytogenetic analysis | Mouse   | 1 mg/L        | 3 weeks       | Positive test result for mutagenicity | RTECS  |

**Inhalation (Vapor) Exposure Route**

| Chemical name                            | Test              | Species | Reported dose | Exposure time | Results                               | Key literature references and sources for data |
|--|-------------------|---------|---------------|---------------|---------------------------------------|--|
| Formaldehyde<br>(<0.1%)<br>CAS#: 50-00-0 | Micronucleus test | Human   | .000985 mg/L  | 8.5 years     | Positive test result for mutagenicity | RTECS  |

**Reproductive toxicity**

Based on available data, the classification criteria are not met.

**Mixture**

No data available.

**Ingredient Reproductive Toxicity Data**

Test data reported below.

**Oral Exposure Route**

| Chemical name                                  | Endpoint type           | Reported dose | Exposure time | Toxicological effects   | Key literature references and sources for data |
|--|-------------------------|---------------|---------------|---|--|
| Methanol<br>(<0.1%)<br>CAS#: 67-56-1           | Rat<br>TD <sub>Lo</sub> | 4118 mg/kg    | 10 days       | <b>Effects on Embryo or Fetus<br/>Specific Developmental Abnormalities</b><br>Ear<br>Eye<br>Fetotoxicity (except death e.g. stunted fetus)<br>Urogenital System | RTECS  |
| Sodium fluoride<br>(<0.01%)<br>CAS#: 7681-49-4 | Rat<br>TD <sub>Lo</sub> | 240 mg/kg     | None reported | <b>Specific Developmental Abnormalities</b><br>Musculoskeletal system   | RTECS  |

**Inhalation (Dust/Mist) Exposure Route**

| Chemical name                        | Endpoint type           | Reported dose | Exposure time | Toxicological effects  | Key literature references and sources for data |
|--------------------------------------|-------------------------|---------------|---------------|--|--|
| Methanol<br>(<0.1%)<br>CAS#: 67-56-1 | Rat<br>TC <sub>Lo</sub> | 0.0026 mg/L   | 22 days       | Effects on Embryo or Fetus<br>Fetotoxicity (except death e.g. stunted fetus) | RTECS  |

#### Inhalation (Vapor) Exposure Route

| Chemical name                            | Endpoint type           | Reported dose | Exposure time | Toxicological effects  | Key literature references and sources for data |
|--|-------------------------|---------------|---------------|--|--|
| Formaldehyde<br>(<0.1%)<br>CAS#: 50-00-0 | Rat<br>TC <sub>Lo</sub> | 40 mg/L       | 14 days       | Effects on Embryo or Fetus<br>Fetotoxicity (except death e.g. stunted fetus) | RTECS  |

#### Aspiration hazard

Based on available data, the classification criteria are not met.

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

Based on available data, the classification criteria are not met.

#### Unknown aquatic toxicity

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

#### Mixture

##### Aquatic Acute Toxicity

No data available.

##### Aquatic Chronic Toxicity

No data available.

#### Substance

##### Aquatic Acute Toxicity

Test data reported below.

#### Fish

| Chemical name                                  | Exposure time | Species                 | Endpoint type    | Reported dose | Key literature references and sources for data |
|--|---------------|-------------------------|------------------|---------------|--|
| Formaldehyde<br>(<0.1%)<br>CAS#: 50-00-0       | 96 hours      | <i>Morone saxatilis</i> | LC <sub>50</sub> | 6.7 mg/L      | PEEN   |
| Sodium fluoride<br>(<0.01%)<br>CAS#: 7681-49-4 | 96 hours      | <i>Channa punctatus</i> | LC <sub>50</sub> | 51 mg/L       | GESTIS   |

#### Crustacea

| Chemical name                                  | Exposure time | Species              | Endpoint type    | Reported dose | Key literature references and sources for data |
|--|---------------|----------------------|------------------|---------------|--|
| Formaldehyde<br>(<0.1%)<br>CAS#: 50-00-0       | 48 Hours      | <i>Daphnia pulex</i> | EC <sub>50</sub> | 5.8 mg/L      | PEEN   |
| Sodium fluoride<br>(<0.01%)<br>CAS#: 7681-49-4 | 48 Hours      | <i>Daphnia magna</i> | EC <sub>50</sub> | 98 mg/L       | GESTIS   |

#### Aquatic Chronic Toxicity

No data available.

**Persistence and degradability**

**Mixture**

No data available.

**Mixture**

No data available.

**Partition coefficient**

Not applicable

**Mobility**

**Soil Organic Carbon-Water Partition Coefficient**

Not applicable

**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**

U122 U154

| Chemical name           | RCRA | RCRA - Basis for Listing                                      | RCRA - D Series Wastes | RCRA - U Series Wastes |
|-------------------------|------|---|------------------------|------------------------|
| Formaldehyde<br>50-00-0 | U122 | Included in waste streams: K009, K010, K038, K040, K156, K157 | -                      | U122                   |
| Methanol<br>67-56-1     | -    | Included in waste stream: F039                                | -                      | U154                   |

**Special instructions for disposal**

If permitted by regulation. Open cold water tap completely, slowly pour the material to the drain. Allow cold water to run for 5 minutes to completely flush the system. Dispose of material in an E.P.A. approved hazardous waste facility.

**14. TRANSPORT INFORMATION**

**DOT**

Not regulated

**TDG**

Not regulated

**IATA**

Not regulated

**IMDG**

Not regulated

**Note:**

No special precautions necessary.

**Additional information**

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

## 15. REGULATORY INFORMATION

### National Inventories

**TSCA** Complies  
**DSL/NDSL** Complies

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

### International Inventories

**EINECS/ELINCS** Complies  
**ENCS** Complies  
**IECSC** Complies  
**KECL** Complies  
**PICCS** Complies  
**TCSI** Complies  
**AICS** Complies  
**NZIoC** Complies

**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  
**TCSI** - Taiwan Chemical Substances Inventory  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

### 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

| Chemical name                 | SARA 313 - Threshold Values % |
|-------------------------------|-------------------------------|
| Formaldehyde (CAS #: 50-00-0) | 0.1                           |
| Methanol (CAS #: 67-56-1)     | 1.0                           |

#### SARA 311/312 Hazard Categories

**Acute health hazard** No  
**Chronic Health Hazard** No  
**Fire hazard** No  
**Sudden release of pressure hazard** No  
**Reactive Hazard** No

#### 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)

| Chemical name                | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|------------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Formaldehyde<br>50-00-0      | 100 lb                      | -                      | -                         | X                          |
| Sodium fluoride<br>7681-49-4 | 1000 lb                     | -                      | -                         | X                          |

#### 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

| Chemical name                | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ)                   |
|------------------------------|--------------------------|----------------|--|
| Formaldehyde<br>50-00-0      | 100 lb                   | 100 lb         | RQ 100 lb final RQ<br>RQ 45.4 kg final RQ  |
| Methanol<br>67-56-1          | 5000 lb                  | -              | RQ 5000 lb final RQ<br>RQ 2270 kg final RQ |
| Sodium fluoride<br>7681-49-4 | 1000 lb                  | -              | RQ 1000 lb final RQ<br>RQ 454 kg final RQ  |

**U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues**

| Chemical name                            | U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues |
|--|---|
| Formaldehyde<br>(<0.1%)<br>CAS#: 50-00-0 | Release - Toxic (solution)  |

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals

| Chemical name                 | California Proposition 65 |
|-------------------------------|---------------------------|
| Formaldehyde (CAS #: 50-00-0) | Carcinogen                |
| Methanol (CAS #: 67-56-1)     | Developmental             |



**WARNING:** This product can expose you to chemicals including Formaldehyde, Methanol, which are known to the State of California to cause cancer or birth defects or reproductive harm.  
 For more information, go to <http://www.P65Warnings.ca.gov>

**IMERC:** Not applicable

**U.S. State Right-to-Know Regulations**

This product may contain substances regulated by state right-to-know regulations.

| Chemical name                | New Jersey | Massachusetts | Pennsylvania |
|------------------------------|------------|---------------|--------------|
| Formaldehyde<br>50-00-0      | X          | X             | X            |
| Methanol<br>67-56-1          | X          | X             | X            |
| Sodium fluoride<br>7681-49-4 | X          | X             | X            |

**U.S. EPA Label Information**

| Chemical name   | FIFRA    | FDA |
|-----------------|----------|-----|
| Methanol        | 180.0910 | -   |
| Sodium fluoride | 180.0145 | -   |

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

**Special Comments**

None

**Additional information**

**Global Automotive Declarable Substance List (GADSL)**

| Chemical name           | Global Automotive Declarable Substance List Classifications  | Global Automotive Declarable Substance List Thersholds |
|-------------------------|--|--|
| Formaldehyde<br>50-00-0 | Prohibited Substance (FI)<br>Prohibited Substance (LR)<br>Declarable Substance (LR)<br>Declarable Substance (FI) | 0.1 %  |
| Methanol<br>67-56-1     | Declarable Substance (FI)<br>Declarable Substance (LR)<br>Prohibited Substance (FI)<br>Prohibited Substance (LR) | 0.6 %  |

**NFPA and HMIS Classifications**

|             |                           |                         |                             |   |
|-------------|---------------------------|-------------------------|-----------------------------|---|
| <b>NFPA</b> | <b>Health hazards</b> - 0 | <b>Flammability</b> - 0 | <b>Instability</b> - 0      | <b>Physical and chemical properties</b> - |
| <b>HMIS</b> | <b>Health hazards</b> - 0 | <b>Flammability</b> - 0 | <b>Physical hazards</b> - 0 | <b>Personal protection</b> -<br>X<br>-1   |

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

|             |   |
|-------------|---|
| ACGIH       | ACGIH (American Conference of Governmental Industrial Hygienists)                           |
| ATSDR       | ATSDR (Agency for Toxic Substances and Disease Registry)                                    |
| CCRIS       | CCRIS (Chemical Carcinogenesis Research Information System)                                 |
| CDC         | CDC (Center for Disease Control)  |
| CEPA        | CEPA (Canadian Environmental Protection Agency)   |
| CICAD       | CICAD (Concise International Chemical Assessment Documents)                                 |
| ECHA        | ECHA (The European Chemicals Agency)  |
| EEA         | EEA (European Environment Agency)   |
| EPA         | EPA (Environmental Protection Agency)   |
| ERMA        | ERMA (New Zealands Environmental Risk Management Authority)                                 |
| ECOSARS     | Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™     |
| FDA         | FDA (Food & Drug Administration)  |
| GESTIS      | GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance) |
| HSDB        | HSDB (Hazardous Substances Data Bank)   |
| INERIS      | INERIS (The National Industrial Environment and Risks Institute)                            |
| IPCS INCHEM | IPCS INCHEM (International Programme on Chemical Safety)                                    |
| IUCLID      | IUCLID (The International Uniform Chemical Information Database)                            |
| NITE        | Japan National Institute of Technology and Evaluation (NITE)                                |
| NIH         | NIH (National Institutes of Health)   |
| NIOSH       | NIOSH (National Institute for Occupational Safety and Health)                               |
| LOLI        | LOLI (List of Lists - An International Chemical Regulatory Database)                        |
| NDF         | no data   |
| NICNAS      | Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)         |
| NIOSH IDLH  | Immediately Dangerous to Life or Health   |
| OSHA        | OSHA (Occupational Safety and Health Administration of the US Department of Labor)          |
| PEEN        | PEEN (Pan European Ecological Network)  |
| RTECS       | RTECS (Registry of Toxic Effects of Chemical Substances)                                    |
| SIDS        | SIDS (Screening Information Dataset) for High Volume Chemicals                              |
| SYKE        | The Finnish Environment Institute (SYKE)  |
| USDA        | USDA (United States Department of Agriculture)  |
| USDC        | USDC (United States Department of Commerce)   |
| WHO         | WHO (World Health Organization)   |

**Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)



**Product Code(s)** 40505  
**Issue Date** 04-May-2021  
**Version** 5

**Product Name** Fluoride Standard Solution 0.5 mg/l as F  
**Revision Date** 26-Jan-2024  
**Page** 17 / 17

|      |                                 |         |   |
|------|---------------------------------|---------|---|
| MAC  | Maximum Allowable Concentration | Ceiling | Ceiling Limit Value   |
| X    | Listed                          | Vacated | These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations. |
| SKN* | Skin designation                | SKN+    | Skin sensitization  |
| RSP+ | Respiratory sensitization       | **      | Hazard Designation  |
| C    | Carcinogen                      | R       | Reproductive toxicant   |
| M    | mutagen                         |         |   |

**Prepared By** Hach Product Compliance Department  
**Issue Date** 04-May-2021  
**Revision Date** 26-Jan-2024  
**Revision Note** None

**Disclaimer**

**USER RESPONSIBILITY:** Each user should read and understand this information and incorporate it in individual 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.**

HACH COMPANY©2023

**End of Safety Data Sheet**