

## SAFETY DATA SHEET

Revision Date 14-Feb-2020

Revision Number 2

### 1. Identification

**Product Name** 4-Fluoro-2-(trifluoromethyl)benzaldehyde

**Cat No. :** B20621

**CAS-No** 90176-80-0

**Synonyms** No information available

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

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

**Company**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

**Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids

Category 3

**Label Elements**

**Signal Word**

Warning

**Hazard Statements**

Flammable liquid and vapor

**Precautionary Statements****Prevention**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting/equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge  
Wear protective gloves/protective clothing/eye protection/face protection

**Skin**

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

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Storage**

Store in a well-ventilated place. Keep cool

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition/Information on Ingredients

| Component                                | CAS-No     | Weight % |
|------------------------------------------|------------|----------|
| 4-Fluoro-2-(trifluoromethyl)benzaldehyde | 90176-80-0 | 98       |

### 4. First-aid measures

|                                            |                                                                                                                              |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.              |
| <b>Skin Contact</b>                        | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention. |
| <b>Inhalation</b>                          | Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.   |
| <b>Ingestion</b>                           | Clean mouth with water. Get medical attention.                                                                               |
| <b>Most important symptoms and effects</b> | Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting                 |
| <b>Notes to Physician</b>                  | Treat symptomatically                                                                                                        |

### 5. Fire-fighting measures

|                                       |                                                                                                                                |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>   | Water spray. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Chemical foam. Water mist may be used to cool closed containers. |
| <b>Unsuitable Extinguishing Media</b> | No information available                                                                                                       |

|                                         |                          |
|-----------------------------------------|--------------------------|
| <b>Flash Point</b>                      | 56 °C / 132.8 °F         |
| <b>Method -</b>                         | No information available |
| <b>Autoignition Temperature</b>         | No information available |
| <b>Explosion Limits</b>                 |                          |
| <b>Upper</b>                            | No data available        |
| <b>Lower</b>                            | No data available        |
| <b>Sensitivity to Mechanical Impact</b> | No information available |
| <b>Sensitivity to Static Discharge</b>  | No information available |

**Specific Hazards Arising from the Chemical**

Combustible material. Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

**Hazardous Combustion Products**

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Gaseous hydrogen fluoride (HF).

**Protective Equipment and Precautions for Firefighters**

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

**NFPA**

**Health**  
0

**Flammability**  
2

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

|                                  |                                                                                        |
|----------------------------------|----------------------------------------------------------------------------------------|
| <b>Personal Precautions</b>      | Remove all sources of ignition. Take precautionary measures against static discharges. |
| <b>Environmental Precautions</b> | See Section 12 for additional Ecological Information.                                  |

|                                             |                                                                                                                                                                                                                                                                                               |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Methods for Containment and Clean Up</b> | Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Do not let this chemical enter the environment. |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 7. Handling and storage

|                 |                                                                                                                                                                                                                                                                                                                                                    |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling</b> | Avoid contact with skin and eyes. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. |
| <b>Storage</b>  | Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed. Keep away from heat, sparks and flame. Keep container tightly closed in a dry and well-ventilated place.                                                              |

## 8. Exposure controls / personal protection

|                            |                                                                                                                                               |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Exposure Guidelines</b> | This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|

|                             |                                                                                                                                                                                                                  |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Engineering Measures</b> | Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment. |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Personal Protective Equipment**

|                                 |                                                                                                                                                                             |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye/face Protection</b>      | Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. |
| <b>Skin and body protection</b> | Wear appropriate protective gloves and clothing to prevent skin exposure.                                                                                                   |
| <b>Respiratory Protection</b>   | No protective equipment is needed under normal use conditions.                                                                                                              |
| <b>Hygiene Measures</b>         | Handle in accordance with good industrial hygiene and safety practice.                                                                                                      |

## 9. Physical and chemical properties

|                                               |                              |
|-----------------------------------------------|------------------------------|
| <b>Physical State</b>                         | Liquid                       |
| <b>Appearance</b>                             | Colorless                    |
| <b>Odor</b>                                   | No information available     |
| <b>Odor Threshold</b>                         | No information available     |
| <b>pH</b>                                     | No information available     |
| <b>Melting Point/Range</b>                    | No data available            |
| <b>Boiling Point/Range</b>                    | 114 °C / 237.2 °F @ 760 mmHg |
| <b>Flash Point</b>                            | 56 °C / 132.8 °F             |
| <b>Evaporation Rate</b>                       | No information available     |
| <b>Flammability (solid,gas)</b>               | Not applicable               |
| <b>Flammability or explosive limits</b>       |                              |
| <b>Upper</b>                                  | No data available            |
| <b>Lower</b>                                  | No data available            |
| <b>Vapor Pressure</b>                         | No information available     |
| <b>Vapor Density</b>                          | 6.62                         |
| <b>Specific Gravity</b>                       | 1.400                        |
| <b>Solubility</b>                             | No information available     |
| <b>Partition coefficient; n-octanol/water</b> | No data available            |
| <b>Autoignition Temperature</b>               | No information available     |
| <b>Decomposition Temperature</b>              | No information available     |
| <b>Viscosity</b>                              | No information available     |
| <b>Molecular Formula</b>                      | C8 H4 F4 O                   |
| <b>Molecular Weight</b>                       | 192.11                       |

## 10. Stability and reactivity

|                                         |                                                                                          |
|-----------------------------------------|------------------------------------------------------------------------------------------|
| <b>Reactive Hazard</b>                  | None known, based on information available                                               |
| <b>Stability</b>                        | Stable under normal conditions.                                                          |
| <b>Conditions to Avoid</b>              | Keep away from open flames, hot surfaces and sources of ignition. Incompatible products. |
| <b>Incompatible Materials</b>           | Strong oxidizing agents                                                                  |
| <b>Hazardous Decomposition Products</b> | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Gaseous hydrogen fluoride (HF)  |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.                                                 |
| <b>Hazardous Reactions</b>              | None under normal processing.                                                            |

## 11. Toxicological information

### Acute Toxicity

|                                                                                                          |                                                             |
|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| <b>Product Information</b>                                                                               | No acute toxicity information is available for this product |
| <b>Component Information</b>                                                                             |                                                             |
| <b>Toxicologically Synergistic Products</b>                                                              | No information available                                    |
| <b><u>Delayed and immediate effects as well as chronic effects from short and long-term exposure</u></b> |                                                             |

|                        |                                                                                          |
|------------------------|------------------------------------------------------------------------------------------|
| <b>Irritation</b>      | No information available                                                                 |
| <b>Sensitization</b>   | No information available                                                                 |
| <b>Carcinogenicity</b> | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component                                | CAS-No     | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|------------------------------------------|------------|------------|------------|------------|------------|------------|
| 4-Fluoro-2-(trifluoromethyl)benzaldehyde | 90176-80-0 | Not listed | Not listed | Not listed | Not listed | Not listed |

|                                                   |                                                                                     |
|---------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Mutagenic Effects</b>                          | No information available                                                            |
| <b>Reproductive Effects</b>                       | No information available.                                                           |
| <b>Developmental Effects</b>                      | No information available.                                                           |
| <b>Teratogenicity</b>                             | No information available.                                                           |
| <b>STOT - single exposure</b>                     | None known                                                                          |
| <b>STOT - repeated exposure</b>                   | None known                                                                          |
| <b>Aspiration hazard</b>                          | No information available                                                            |
| <b>Symptoms / effects, both acute and delayed</b> | Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting |
| <b>Endocrine Disruptor Information</b>            | No information available                                                            |
| <b>Other Adverse Effects</b>                      | The toxicological properties have not been fully investigated.                      |

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

|                                      |                           |
|--------------------------------------|---------------------------|
| <b>Persistence and Degradability</b> | No information available  |
| <b>Bioaccumulation/ Accumulation</b> | No information available. |
| <b>Mobility</b>                      | No information available. |

## 13. Disposal considerations

|                               |                                                                                                                                                                                                                                                                 |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Waste Disposal Methods</b> | Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification. |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 14. Transport information

### DOT

|                             |                   |
|-----------------------------|-------------------|
| <b>UN-No</b>                | UN1989            |
| <b>Proper Shipping Name</b> | ALDEHYDES, N.O.S. |
| <b>Hazard Class</b>         | 3                 |
| <b>Packing Group</b>        | III               |

### TDG

|                             |                   |
|-----------------------------|-------------------|
| <b>UN-No</b>                | UN1989            |
| <b>Proper Shipping Name</b> | ALDEHYDES, N.O.S. |
| <b>Hazard Class</b>         | 3                 |
| <b>Packing Group</b>        | III               |

### IATA

|                             |                   |
|-----------------------------|-------------------|
| <b>UN-No</b>                | UN1989            |
| <b>Proper Shipping Name</b> | ALDEHYDES, N.O.S. |

|                             |                   |
|-----------------------------|-------------------|
| <b>Hazard Class</b>         | 3                 |
| <b>Packing Group</b>        | III               |
| <b>IMDG/IMO</b>             |                   |
| <b>UN-No</b>                | UN1989            |
| <b>Proper Shipping Name</b> | ALDEHYDES, N.O.S. |
| <b>Hazard Class</b>         | 3                 |
| <b>Packing Group</b>        | III               |

## 15. Regulatory information

### United States of America Inventory

| Component                                | CAS-No     | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|------------------------------------------|------------|------|-----------------------------------------------|-----------------------------|
| 4-Fluoro-2-(trifluoromethyl)benzaldehyde | 90176-80-0 | -    | -                                             | -                           |

#### Legend:

**TSCA** - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

### International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component                                | CAS-No     | DSL | NDSL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|------------------------------------------|------------|-----|------|--------|-------|------|------|-------|------|
| 4-Fluoro-2-(trifluoromethyl)benzaldehyde | 90176-80-0 | -   | -    | -      | -     | -    | -    | -     | -    |

### U.S. Federal Regulations

**SARA 313** Not applicable

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)** Not applicable

**Clean Air Act** Not applicable

**OSHA - Occupational Safety and Health Administration** Not applicable

**CERCLA** Not applicable

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations** Not applicable

#### U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

### Other International Regulations

Mexico - Grade

No information available

## 16. Other information

**Prepared By**

Health, Safety and Environmental Department  
Email: tech@alfa.com  
www.alfa.com

**Revision Date**

14-Feb-2020

**Print Date**

14-Feb-2020

**Revision Summary**

SDS authoring systems update, replaces ChemGes SDS No. 90176-80-0.

**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 SDS**