3,5-Difluorobenzenesulfonamide

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Description: 3,5-Difluorobenzenesulfonamide
Cat No.: L19720
Molecular Formula: C6 H5 F2 N O2 S
Supplier: Alfa Aesar
Avocado Research Chemicals, Ltd.
Shore Road
Port of Heysham Industrial Park
Heysham, Lancashire LA3 2XY
United Kingdom
Office Tel: +44 (0) 1524 850506
Office Fax: +44 (0) 1524 850608
Emergency Telephone Number: Call Carechem 24 at
+44 (0) 1865 407333 (English only);
+44 (0) 1235 239670 (Multi-language)
E-mail address: uktech@alfa.com
www.alfa.com
Product Safety Department
Recommended Use: Laboratory chemicals.
Uses advised against: No Information available

SECTION 2. HAZARD IDENTIFICATION

Physical State: Solid
Appearance: No information available
Odor: No information available

Emergency Overview:
Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity - (single exposure)</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

Label Elements

Signal Word: Warning
Hazard Statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Precautionary Statements
Prevention
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
Response
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER or doctor/ physician if you feel unwell
P362 - Take off contaminated clothing and wash before reuse
Storage
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant

Physical and Chemical Hazards
None identified.

Health Hazards
Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Environmental hazards
Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,5-Difluorobenzenesulfonamide</td>
<td>140480-89-3</td>
<td>&lt;=100</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

General Advice
If symptoms persist, call a physician.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation
Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion
Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Most important symptoms and effects
None reasonably foreseeable.

Self-Protection of the First Aider
Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of
contamination.

Notes to Physician
Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

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

Extinguishing media which must not be used for safety reasons
No information available.

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors.

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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.

Environmental Precautions
Should not be released into the environment. See Section 12 for additional ecological information.

Methods for Containment and Clean Up
Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal.

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

Handling
Wear personal protective equipment. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

Storage
Keep container tightly closed in a dry and well-ventilated place.

Specific Use(s)
Use in laboratories

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Monitoring methods
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Exposure Controls
Engineering Measures
Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

<table>
<thead>
<tr>
<th>Eye Protection</th>
<th>Hand Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goggles (European standard - EN 166)</td>
<td>Protective gloves</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glove material</th>
<th>Breakthrough time</th>
<th>Glove thickness</th>
<th>EU standard</th>
<th>Glove comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrile rubber</td>
<td>See manufacturers</td>
<td>-</td>
<td>EN 374</td>
<td>(minimum requirement)</td>
</tr>
<tr>
<td>Neoprene</td>
<td>recommendations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural rubber</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inspect gloves before use. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

<table>
<thead>
<tr>
<th>Skin and body protection</th>
<th>Respiratory Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long sleeved clothing</td>
<td>When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly</td>
</tr>
</tbody>
</table>

Large scale/emergency use
Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Recommended Filter type:** Particulates filter conforming to EN 143

Small scale/Laboratory use
Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended half mask:** Particle filtering; EN149:2001
When RPE is used a face piece Fit Test should be conducted

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls
No information available.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Physical State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>Solid</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Odor</th>
<th>Odor Threshold</th>
<th>pH</th>
<th>Melting Point/Range</th>
<th>Softening Point</th>
<th>Boiling Point/Range</th>
<th>Flash Point</th>
<th>Evaporation Rate</th>
<th>Flammability (solid,gas)</th>
<th>Explosion Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>No information available</td>
<td>No data available</td>
<td>No information available</td>
<td>157 - 161 °C / 314.6 - 321.8 °F</td>
<td>No data available</td>
<td>No information available</td>
<td>No information available</td>
<td>Not applicable</td>
<td>No information available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

| Method | Solid |
### SECTION 10. STABILITY AND REACTIVITY

**Stability**

Stable under normal conditions.

**Hazardous Reactions**

None under normal processing.

**Hazardous Polymerization**

No information available.

**Conditions to Avoid**

None known.

**Materials to avoid**

No information available.

**Hazardous Decomposition Products**

None under normal use conditions.

### SECTION 11. TOXICOLOGICAL INFORMATION

**Product Information**

(a) acute toxicity;

(b) skin corrosion/irritation;  
   Category 2

(c) serious eye damage/irritation;  
   Category 2

(d) respiratory or skin sensitization;
   
<table>
<thead>
<tr>
<th>Respiratory</th>
<th>Skin</th>
</tr>
</thead>
<tbody>
<tr>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

(e) germ cell mutagenicity;  
   No data available

(f) carcinogenicity;  
   No data available
   There are no known carcinogenic chemicals in this product

(g) reproductive toxicity;  
   No data available

(h) STOT-single exposure;  
   Category 3
   
<table>
<thead>
<tr>
<th>Results / Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory system</td>
</tr>
</tbody>
</table>
(i) STOT-repeated exposure;  No data available

Target Organs  None known.

(j) aspiration hazard;  Not applicable

Solid

Symptoms / effects, both acute and delayed  No information available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects  Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

Persistence and Degradability  No information available

Bioaccumulative Potential  No information available

Mobility in soil  No information available

Endocrine Disruptor Information

Persistent Organic Pollutant  This product does not contain any known or suspected substance

Ozone Depletion Potential  This product does not contain any known or suspected substance

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from Residues / Unused Products  Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging  Dispose of this container to hazardous or special waste collection point.

Other Information  Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport  Not Regulated

IMDG/IMO  Not regulated

IATA  Not regulated

Special Precautions for User  No special precautions required

SECTION 15. REGULATORY INFORMATION

International Inventories  X = listed
National Regulations

SECTION 16. OTHER INFORMATION

Prepared By: Health, Safety and Environmental Department
Revision Date: 18-Jun-2018
Revision Summary: SDS authoring systems update, replaces ChemGes SDS No. 140480-89-3.

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.

Legend

CAS - Chemical Abstracts Service
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

WEL - Workplace Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists
DNEL - Derived No Effect Level
RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%
NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
PNEC - Predicted No Effect Concentration
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative

Key literature references and sources for data
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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