1. Identification

Product identifier used on the label

Hydrosulfite F

Recommended use of the chemical and restriction on use

* The "Recommended use" identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

2. Hazards Identification


Classification of the product

<table>
<thead>
<tr>
<th>Self-heat</th>
<th>Eye Dam./Irrit.</th>
<th>Aquatic Acute</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2A</td>
<td>3</td>
</tr>
</tbody>
</table>

Self-heating substances and mixtures
Serious eye damage/eye irritation
Hazardous to the aquatic environment - acute

Label elements

Pictogram:
Safety Data Sheet
Hydrosulfite F
Revision date: 2014/12/22
Version: 5.0

Signal Word:
Danger

Hazard Statement:
H251 Self-heating: may catch fire.
H319 Causes serious eye irritation.
H402 Harmful to aquatic life.

Precautionary Statements (Prevention):
P280 Wear protective gloves and eye/face protection.
P273 Avoid release to the environment.
P235 + P410 Keep cool. Protect from sunlight.
P264 Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P311 If eye irritation persists: Call a POISON CENTER or doctor/physician.

Precautionary Statements (Storage):
P407 Maintain air gap between stacks/pallets.
P420 Store away from other materials.
P413 Store bulk masses greater than 1,000 kg/2,205 lbs at temperatures not exceeding 25 °C/77 °F.

Precautionary Statements (Disposal):
P501 Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

No specific dangers known, if the regulations/notes for storage and handling are considered. If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

Labeling of special preparations (GHS):
Contact with acids liberates toxic gas.


Emergency overview

WARNING:
IGNITES ON CONTACT WITH WATER.
FLAMMABLE SOLID.
Self-heating: may catch fire.
HARMFUL IF SWALLOWED.
INGESTION MAY CAUSE GASTRIC DISTURBANCES.
MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION.
Avoid contact with the skin, eyes and clothing.
Avoid inhalation of dusts.
Use with local exhaust ventilation.
Wear a NIOSH-certified (or equivalent) particulate respirator.
Wear NIOSH-certified chemical goggles.
Wear chemical resistant protective gloves.
Wear protective clothing.
3. Composition / Information on Ingredients


<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Content (W/W)</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>7775-14-6</td>
<td>&gt;= 88.0 %</td>
<td>sodium dithionite; sodium hydrosulphite</td>
</tr>
<tr>
<td>497-19-8</td>
<td>&gt;= 0.0 - &lt;= 5.0 %</td>
<td>sodium carbonate</td>
</tr>
<tr>
<td>497-19-8</td>
<td>&gt;= 1.0 - &lt; 7.0 %</td>
<td>sodium carbonate</td>
</tr>
<tr>
<td>7681-57-4</td>
<td>&gt;= 3.0 - &lt; 7.0 %</td>
<td>Sodium metabisulfite</td>
</tr>
<tr>
<td>7775-83-7</td>
<td>&gt;= 0.3 - &lt; 5.0 %</td>
<td>sodium sulphite</td>
</tr>
<tr>
<td>7775-14-6</td>
<td>&gt;= 75.0 - &lt;= 100.0 %</td>
<td>sodium dithionite</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Content (W/W)</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>7775-14-6</td>
<td>88.0 - 91.0 %</td>
<td>sodium dithionite</td>
</tr>
<tr>
<td>7681-57-4</td>
<td>3.0 - 6.0 %</td>
<td>Sodium metabisulfite</td>
</tr>
<tr>
<td>497-19-8</td>
<td>1.0 - 5.0 %</td>
<td>sodium carbonate</td>
</tr>
<tr>
<td>7775-83-7</td>
<td>0.5 - 3.5 %</td>
<td>sodium sulphite</td>
</tr>
</tbody>
</table>

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing.

If inhaled:
After inhalation of decomposition products, remove the affected person to a source of fresh air and keep calm. Provide medical aid.

If on skin:
Wash affected areas with water for at least 15 minutes. Immediate medical attention required.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open. Seek medical attention.

If swallowed:
Rinse mouth immediately and then drink plenty of water. Seek medical attention.

Most important symptoms and effects, both acute and delayed

Hazards: Respiratory sensitization may result in allergic (asthma-like) signs in the lower respiratory tract including wheezing, shortness of breath and difficulty breathing, the onset of which may be delayed.

Indication of any immediate medical attention and special treatment needed
5. Fire-Fighting Measures

**Extinguishing media**

Suitable extinguishing media:
Water in copious quantities

Unsuitable extinguishing media for safety reasons:
water spray

Additional information:
Self inflammation possible by spray waters or water in small quantities.

**Special hazards arising from the substance or mixture**

Hazards during fire-fighting:
Sulphur dioxide.
The substances/groups of substances mentioned can be released in case of fire.

**Advice for fire-fighters**

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

**Further information:**
Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. Accidental release measures

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

Avoid contact with the skin, eyes and clothing. Use breathing apparatus if exposed to vapours/dust/aerosol.

**Environmental precautions**

Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.
Retain and dispose of contaminated wash water.

**Methods and material for containment and cleaning up**

Spills should be contained and placed in suitable containers for disposal.

7. Handling and Storage

**Precautions for safe handling**

Ensure thorough ventilation of stores and work areas. Closed containers should only be opened in well-ventilated areas. Do not open warm or swollen product containers. Remove persons to safety and alert fire brigade.

Protection against fire and explosion:
The product is liable to self-heating but not explosive.

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

Segregate from acids. Segregate from oxidants.

Further information on storage conditions: Protect against moisture. Containers should be stored tightly sealed in a dry place. Keep away from heat.
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Storage stability:
Storage duration: 12 Months
Large quantities of the product should not be kept in stockrooms with sprinkler installations due to a possible self inflammation by small quantities of water.
Improper storage may result in a pressure build-up in the storage containers.
The packed product is not damaged by low temperatures or by frost.
Protect from temperatures above: 50 °C
The packed product must be protected against exceeding the indicated temperature.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA PEL</th>
<th>PEL 5 ppm</th>
<th>13 mg/m3</th>
<th>STEL value 5 ppm</th>
<th>13 mg/m3</th>
<th>TWA value 2 ppm</th>
<th>5 mg/m3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphur dioxide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV</td>
<td>STEL value</td>
<td>0.25 ppm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium metabisulfite</td>
<td>OSHA PEL</td>
<td>TWA value</td>
<td>5 mg/m3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV</td>
<td>TWA value</td>
<td>5 mg/m3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Advice on system design:
Provide local exhaust ventilation to control vapours/mists.

Personal protective equipment

Respiratory protection:
Breathing protection if dusts are formed. Wear a NIOSH-certified (or equivalent) particulate respirator.

Hand protection:
Chemical resistant protective gloves, PVC-coated gloves, butyl rubber

Eye protection:
Tightly fitting safety goggles (chemical goggles).

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

9. Physical and Chemical Properties

Form: powder
Odour: pungent odour
Colour: white
pH value: 5.5 - 8.5
decomposition point: > 80 °C (50 g/l)
Boiling point: Thermal decomposition above the indicated temperature is possible.
The substance / product decomposes therefore not determined.
Flash point: not applicable
Flammability: Risk of spontaneous ignition.
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Flammability of Aerosol Products: not applicable, the product does not form flammable aerosoles)
Lower explosion limit: not applicable
Relative density: 2.5
Bulk density: approx. 1,000 kg/m3
Vapour density: (20 °C)
Partitioning coefficient n-octanol/water (log Pow): The product is a non-volatile solid.
Self-ignition temperature: not applicable
Thermal decomposition: > 80 °C
Thermal decomposition above the indicated temperature is possible.
Viscosity, dynamic: not applicable
Viscosity, kinematic: not applicable, the product is a solid
Solubility in water: > 150 g/l (20 °C) slow decomposition
Evaporation rate: The product is a non-volatile solid.

10. Stability and Reactivity

Reactivity
Corrosion to metals:
Corrosive effects to metal are not anticipated.

Minimum ignition energy:
1 bar, Grain size distribution: 30 - 150 μm (VDI 2263, sheet 1, 2.1.2)
The product is not capable of a dust explosion.

Chemical stability

Possibility of hazardous reactions
Reacts with acids. Reacts with oxidizing agents. Reacts with damp air. Self inflammation possible by spray waters or water in small quantities. On contact with water, gaseous decomposition products are formed, which cause build-up of pressure in tightly closed containers.

Conditions to avoid
> 65 degrees Celsius
Avoid humidity.

Incompatible materials
acids, oxidizing agents

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: Sulphur dioxide

Thermal decomposition:
80 °C
Thermal decomposition above the indicated temperature is possible.

11. Toxicological information

Primary routes of exposure
Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

**Acute Toxicity/Effects**

**Acute toxicity**
Assessment of acute toxicity: Of moderate toxicity after single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

**Oral**
Type of value: LD50
Species: rat (male/female)
Value: approx. 2,500 mg/kg (BASF-Test)
The European Union (EU) has classified this substance as 'harmful'.

**Inhalation**
Type of value: LC50
Species: rat (male/female)
Value: > 5.5 mg/l (OECD Guideline 403)
Exposure time: 4 h
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

**Dermal**
Type of value: LD50
Species: rat (male/female)
Value: > 2,000 mg/kg (OECD Guideline 402)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

**Assessment other acute effects**
Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

**Irritation / corrosion**
Assessment of irritating effects: Not irritating to the skin. Eye contact causes irritation.

**Skin**
Species: rabbit
Result: non-irritant
Method: BASF-Test

**Eye**
Species: rabbit
Result: Slightly irritating.
Method: OECD Guideline 405

**Sensitization**
Mouse Local Lymph Node Assay (LLNA)
Species: mouse
Result: Non-sensitizing.
Method: OECD Guideline 429
Aspiration Hazard
not applicable

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: No known chronic effects.

Genetic toxicity
Assessment of mutagenicity: Most of the results from the available studies show no evidence of a mutagenic effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Carcinogenicity
Assessment of carcinogenicity: In long-term studies in rats in which the substance was given by feed, a carcinogenic effect was not observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Teratogenicity
Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Symptoms of Exposure

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity: Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish
LC50 (96 h) 62.3 mg/l, Leuciscus idus (DIN 38412 Part 15, static)
Nominal concentration.

Aquatic invertebrates
EC50 (48 h) 98.3 mg/l, Daphnia magna (Directive 79/831/EEC, static)
Nominal concentration.

Aquatic plants
EC50 (72 h) 206 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9, static)
Nominal concentration.

Chronic toxicity to fish
No observed effect concentration (34 d) >= 316 mg/l, Brachydanio rerio (OECD Guideline 210, Flow through)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Chronic toxicity to aquatic invertebrates
No observed effect concentration (21 d) > 10 mg/l, Daphnia magna (semistatic)
Nominal concentration.
Assessment of terrestrial toxicity
Study scientifically not justified.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms
OECD Guideline 209 aquatic
activated sludge of a predominantly domestic sewage/EC20 (3 h): 120.5 mg/l

Persistence and degradability

Assessment biodegradation and elimination (H2O)
Inorganic product which cannot be eliminated from water by biological purification processes. Study scientifically not justified.

Assessment of stability in water
In contact with water the substance will hydrolyse rapidly.

Information on Stability in Water (Hydrolysis)
t_{1/2} 1.5 h (50 °C, pH value 8.5), (Directive 84/449/EEC, C.10)

Bioaccumulative potential

Assessment bioaccumulation potential
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Bioaccumulation potential
Study scientifically not justified.

Mobility in soil

Assessment transport between environmental compartments
Adsorption to solid soil phase is not expected.

13. Disposal considerations

Waste disposal of substance:
The use and processing of this product, or addition of other constituents, may cause it to be considered a hazardous waste. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA. Dispose of in accordance with national, state and local regulations.

Container disposal:
Do not reuse empty containers.

RCRA: D003

14. Transport Information

Land transport
USDOT
Hazard class: 4.2
Packing group: II
ID number: UN 1384
Hazard label: 4.2
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Hydrosulfite F
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Proper shipping name: SODIUM DITHIONITE (SODIUM HYDROSULPHITE)

Sea transport
IMDG
Hazard class: 4.2
Packing group: II
ID number: UN 1384
Hazard label: 4.2
Marine pollutant: NO
Proper shipping name: SODIUM DITHIONITE (SODIUM HYDROSULPHITE)

Air transport
IATA/ICAO
Hazard class: 4.2
Packing group: II
ID number: UN 1384
Hazard label: 4.2
Proper shipping name: SODIUM DITHIONITE (SODIUM HYDROSULPHITE)

15. Regulatory Information

Federal Regulations
Registration status:
Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories):
Acute;

CERCLA RQ CAS Number Chemical name
5000 LBS 67-56-1 Methanol

State regulations

State RTK CAS Number Chemical name
MA, NJ, PA 7775-14-6 sodium dithionite
MA, NJ, PA 7681-57-4 Sodium metabisulfite

NFPA Hazard codes:
Health: 2 Fire: 1 Reactivity: 2 Special:

HMIS III rating
Health: 2 Flammability: 2 Physical hazard: 2 (Water Reactive)

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Aquatic Acute 3 Hazardous to the aquatic environment - acute
Skin Corr./ Irrit. 3 Skin corrosion/irritation
Eye Dam./ Irrit. 2A Serious eye damage/eye irritation
Self-heating 1 Self-heating substances and mixtures
Acute Tox. 5 (oral) Acute toxicity
16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2014/12/22

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END OF DATA SHEET