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SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier

| Product No.: | Product name: | Common name(s), synonym(s) |
|--------------|----------------------------|----------------------------|
| 342003 | BD FACSTFlow™ Sheath Fluid | No data available |

Recommended restrictions

Recommended use: Scientific and industrial laboratory use. For In Vitro Diagnostic Use.

Restrictions on use: None known.

Manufacturer/Importer/Distributor Information

Manufacturer

Company Name: Becton, Dickinson and Company - BD Biosciences

Address: 2350 Qume Drive
San Jose, CA 95131
USA

Telephone: 1 877 232 8995 or 1 800 424 9300

Fax: not available

Contact Person: Technical Services

E-mail: ResearchApplications@bd.com or ClinicalApplications@bd.com

Emergency telephone number: CHEMTREC 1 800 424 9300



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2. Hazard(s) identification

Hazard Classification

Not classified

Label Elements

Hazard Symbol: No symbol
Signal Word: No signal word.
Hazard Statement: Not applicable
Precautionary Statements Not applicable

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

| Chemical Identity | Common name and synonyms | CAS number | Content in percent (%)* |
|-----------------------|--------------------------|------------|-------------------------|
| Sodium fluoride (NaF) | No data available. | 7681-49-4 | 0.064% |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of first aid measures



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| | |
|---|---|
| General information: | Get medical attention if symptoms occur. |
| Inhalation: | Provide fresh air, warmth and rest, preferably in comfortable upright sitting position. |
| Skin Contact: | Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. |
| Eye contact: | Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. |
| Ingestion: | Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. |
| Personal Protection for First-aid Responders: | No data available. |
| Most important symptoms and effects, both acute and delayed | |
| Symptoms: | No data available. |
| Hazards: | No data available. |
| Indication of immediate medical attention and special treatment needed | |
| Treatment: | No data available. |

5. Fire-fighting measures



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General Fire Hazards: Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Use water spray to keep fire-exposed containers cool.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Not applicable

Special hazards arising from the substance or mixture: Fire or excessive heat may produce hazardous decomposition products.

Special protective equipment and precautions for fire-fighters

Special fire-fighting procedures: No unusual fire or explosion hazards noted.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Contact local authorities in case of spillage to drain/aquatic environment. Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area.

Accidental release measures: No data available.



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Methods and material for containment and cleaning up:

Absorb spillage with suitable absorbent material. Prevent runoff from entering drains, sewers, or streams. See Section 8 of the SDS for Personal Protective Equipment. For waste disposal, see section 13 of the SDS.

Environmental Precautions:

Avoid release to the environment.

7. Handling and storage

Handling

Technical measures:

No data available.

Local/Total ventilation:

No data available.

Safe handling advice:

When using do not eat, drink or smoke. Read and follow manufacturer's recommendations. Use personal protective equipment as required.

Contact avoidance measures:

No data available.

Storage

Safe storage conditions:

Store in a cool, dry place. Keep container tightly closed.

Safe packaging materials:

No data available.



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8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

| Chemical Identity | Type | Exposure Limit Values | | Source |
|-------------------------------|------|-----------------------|-----------------------|------------|
| | | | | |
| Sodium fluoride (NaF) - as F | TWA | | 2.5 mg/m ³ | OSHA Z1A |
| | TWA | | 2.5 mg/m ³ | ACGIH |
| | REL | | 2.5 mg/m ³ | NIOSH |
| | PEL | | 2.5 mg/m ³ | OSHA Z1 |
| Sodium fluoride (NaF) - Dust. | TWA | | 2.5 mg/m ³ | OSHA Z2 |
| Sodium fluoride (NaF) | IDLH | | 250 mg/m ³ | NIOSH IDLH |
| | IDLH | | 250 mg/m ³ | NIOSH IDLH |

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

Biological Limit Values

| Chemical name | Parameters / Sampling Time | Exposure Limit Values | Source |
|-----------------------|--|-----------------------|-----------|
| Sodium fluoride (NaF) | Fluoride Sampling time: Prior to shift. | 2 mg/l (Urine) | ACGIH BEI |



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| | | | |
|--|--|----------------|-----------|
| | Fluoride Sampling time: End of shift. | 3 mg/l (Urine) | ACGIH BEI |
|--|--|----------------|-----------|

Appropriate Engineering Controls

No special requirements under ordinary conditions of use and with adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection:

Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection:

Material: Chemical resistant gloves

Additional Information: Wash hands after contact. Material: Suitable gloves can be recommended by the glove supplier.

Skin and Body Protection:

Wear a lab coat or similar protective clothing.

Respiratory Protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Hygiene measures:

Observe good industrial hygiene practices.



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9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance

| | |
|------------------------|--------------------|
| Physical state: | liquid |
| Form: | liquid |
| Color: | Colorless |
| Odor: | Odorless |
| Odor Threshold: | No data available. |
| Freezing point: | No data available. |
| Boiling Point: | No data available. |
| Flammability: | No data available. |

Upper/lower limit on flammability or explosive limits

| | |
|-----------------------------------|--------------------|
| Explosive limit - upper: | No data available. |
| Explosive limit - lower: | No data available. |
| Flash Point: | No data available. |
| Autoignition Temperature: | No data available. |
| Decomposition Temperature: | No data available. |

pH: 7.34 - 7.50

Viscosity

Dynamic viscosity: No data available.



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Kinematic viscosity: No data available.

Flow Time: No data available.

Solubility(ies)

Solubility in Water: No data available.

Solubility (other): No data available.

Partition coefficient (n-octanol/water): No data available.

Vapor pressure: No data available.

Relative density: No data available.

Density: No data available.

Bulk density: No data available.

Relative vapor density: No data available.

Other information

No data available

10. Stability and reactivity

Reactivity: Material is stable under normal conditions.

Chemical Stability: Material is stable under normal conditions.

Possibility of hazardous reactions: Stable



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| | |
|--|---|
| Conditions to avoid: | Avoid exposure to high temperatures or direct sunlight. |
| Incompatible Materials: | Metals. Water reactive material. |
| Hazardous Decomposition Products: | Stable; however, may decompose if heated. |

11. Toxicological information

Information on likely routes of exposure

| | |
|----------------------|--------------------|
| Inhalation: | No data available. |
| Skin Contact: | No data available. |
| Eye contact: | No data available. |
| Ingestion: | No data available. |

Acute toxicity (list all possible routes of exposure)

Oral

| | |
|-----------------------|--|
| Product: | Not classified for acute toxicity based on available data. |
| Components: | |
| Sodium fluoride (NaF) | No data available. |



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Dermal

Product: Not classified for acute toxicity based on available data.

Components:

Sodium fluoride (NaF) No data available.

Inhalation

Product: Not classified for acute toxicity based on available data.

Components:

Sodium fluoride (NaF) No data available.

Repeated dose toxicity

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

Skin Corrosion/Irritation

Product: No data available.

Components:

Sodium fluoride (NaF) Irritating

Serious Eye Damage/Eye Irritation

Product: No data available.

Components:

Sodium fluoride (NaF) Possibly Irritating

Respiratory or Skin Sensitization



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Product: No data available.

Components:

Sodium fluoride (NaF) Skin sensitization:, in vivo, Guinea pig, Non sensitising

Carcinogenicity

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogens present or none present in regulated quantities

ACGIH: US.ACGIH Threshold Limit Values:

No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:

No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity

In vitro

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.



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In vivo

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

Reproductive toxicity

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

Aspiration Hazard

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.



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Information on health hazards

Other hazards

Product: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Components:

| | |
|-----------------------|--|
| Sodium fluoride (NaF) | LC 50, Various, 96 h, 108 mg/l, Other, Weight of Evidence study |
| | LC 50, Fathead minnow (<i>Pimephales promelas</i>), 96 h, 124 - 194 mg/l Static, Mortality |
| | LC 50, Various, 96 h, 340 mg/l, Other, Weight of Evidence study |
| | LC 50, Various, 48 h, 299 mg/l, Other, Weight of Evidence study |

Aquatic Invertebrates

Product: No data available.

Components:

| | |
|-----------------------|---|
| Sodium fluoride (NaF) | LC 50, Water flea (<i>Daphnia magna</i>), 48 h, 335 mg/l Static, Intoxication |
|-----------------------|---|



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Toxicity to Aquatic Plants

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

Toxicity to microorganisms

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

Aquatic Invertebrates

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

Toxicity to microorganisms

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.



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Persistence and Degradability

Biodegradation

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

BOD/COD Ratio

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Components:

Sodium fluoride (NaF) No data available.

Mobility in soil:



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Product No data available.

Components:

Sodium fluoride (NaF) No data available.

Results of PBT and vPvB assessment:

Product No data available.

Components:

Sodium fluoride (NaF) No data available.

Other adverse effects:

Other hazards

Product: No data available.

13. Disposal considerations

General information: Dispose of waste and residues in accordance with local authority requirements.

Disposal methods: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Dispose of contents/container to an appropriate treatment and



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Packaging: disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

14. Transport information

Environmental Hazards

Environmentally Hazardous: No

Marine Pollutant: No

IATA

Not regulated.

IMDG

Not regulated.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.



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US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity

SODIUM PHOSPHATE, DIBASIC

GLYCOL ETHERS

SODIUM FLUORIDE

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Not classified

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

None present or none present in regulated quantities.

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting

None present or none present in regulated quantities.



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Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

Chemical Identity

SODIUM PHOSPHATE, DIBASIC

SODIUM FLUORIDE

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable



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Kyoto protocol

Not applicable

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|--|
| 16. Other information, including date of preparation or last revision |
|--|

Issue Date: 04/06/2012

Version #: 2.3

Abbreviations and acronyms:

| | |
|--------------------|---|
| ACGIH: | US. ACGIH Threshold Limit Values, as amended |
| ACGIH BEI: | US. ACGIH. BEIs. Biological Exposure Indices, as amended |
| NIOSH IDLH: | US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended |
| NIOSH/GUIDE: | US. NIOSH: Pocket Guide to Chemical Hazards, as amended |
| OSHA_TRANS: | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended |
| OSHA/Z2: | US. OSHA Table Z-2 (29 CFR 1910.1000), as amended |
| Z1A: | US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended |
| ACGIH / TWA: | Time Weighted Average (TWA): |
| NIOSH IDLH / IDLH: | Immediately dangerous to life or health (IDLH) concentration: |
| NIOSH/GUIDE / REL: | Recommended exposure limit (REL): |
| OSHA_TRANS / PEL: | Permissible exposure limit: |
| OSHA/Z2 / TWA: | Time Weighted Average (TWA): |
| Z1A / TWA: | Time Weighted Average (TWA): |

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AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECl - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Source of information: European Chemicals Agency (ECHA): Information on Chemicals.

Further Information: No data available.



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