SAFETY DATA SHEET

Creation Date 12-Apr-2010  Revision Date 23-Oct-2014  Revision Number 1

1. Identification

Product Name Sodium fumarate
Cat No. AC215530000; AC215530050; AC215531000; AC215535000
Synonyms Fumaric Acid, Disodium Salt.
Recommended Use Laboratory chemicals.
Uses advised against No Information available

Details of the supplier of the safety data sheet

Company Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Entity / Business Name Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information US call: 001-800-ACROS-01
/ Europe call: +32 14 57 52 11
Emergency Number US:001-201-796-7100 /
Europe: +32 14 57 52 99
CHEMTREC Tel. No.US:001-800-424-9300 /
Europe:001-703-527-3887

2. Hazard(s) identification

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

Skin Corrosion/irritation Category 2
Serious Eye Damage/Eye Irritation Category 2
Specific target organ toxicity (single exposure) Category 3
Target Organs - Respiratory system.

Label Elements

Signal Word Warning

Hazard Statements
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
Precautionary Statements

**Prevention**
- Wash face, hands and any exposed skin thoroughly after handling
- Wear protective gloves/protective clothing/eye protection/face protection
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area

**Inhalation**
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- Call a POISON CENTER or doctor/physician if you feel unwell

**Skin**
- IF ON SKIN: Wash with plenty of soap and water
- If skin irritation occurs: Get medical advice/attention
- Take off contaminated clothing and wash before reuse

**Eyes**
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- If eye irritation persists: Get medical advice/attention

**Storage**
- Store in a well-ventilated place. Keep container tightly closed
- Store locked up

**Disposal**
- Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**
- None identified

### 3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fumarate dibasic</td>
<td>17013-01-3</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

### 4. First-aid measures

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

**Skin Contact**
- Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Obtain medical attention.

**Inhalation**
- Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Obtain medical attention.

**Ingestion**
- Clean mouth with water. Get medical attention.

**Most important symptoms/effects**
- No information available.

**Notes to Physician**
- Treat symptomatically

### 5. Fire-fighting measures

**Suitable Extinguishing Media**
- Water spray. Carbon dioxide (CO₂). Dry chemical. chemical foam.

**Unsuitable Extinguishing Media**
- No information available
Sodium fumarate

Flash Point
Method - No information available

Autoignition Temperature
Not applicable

Explosion Limits
Upper No data available
Lower No data available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical
Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
Carbon monoxide (CO) Carbon dioxide (CO₂)

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.

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

6. Accidental release measures
Personal Precautions Ensure adequate ventilation. Use personal protective equipment.

Environmental Precautions 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.

7. Handling and storage
Handling Avoid contact with skin and eyes. Do not breathe dust.

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

8. Exposure controls / personal protection
Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment
Eye/face Protection 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.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

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

9. Physical and chemical properties
Physical State Powder Solid
Appearance White
Odor No information available
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Odor Threshold
No information available

pH
7-8

Melting Point/Range
No data available

Boiling Point/Range
No information available

Flash Point
Not applicable

Evaporation Rate
Not applicable

Flammability (solid,gas)
No information available

Flammability or explosive limits
Upper
No data available

Lower
No data available

Vapor Pressure
No information available

Vapor Density
Not applicable

Relative Density
No information available

Solubility
228 g/l

Partition coefficient; n-octanol/water
No data available

Autoignition Temperature
Not applicable

Decomposition Temperature
No information available

Viscosity
Not applicable

Molecular Formula
C4H2Na2O4

Molecular Weight
160.04

10. Stability and reactivity

Reactive Hazard
None known, based on information available

Stability
Hygroscopic.

Conditions to Avoid
Incompatible products. Exposure to moist air or water.

Incompatible Materials
Strong acids

Hazardous Decomposition Products
Carbon monoxide (CO), Carbon dioxide (CO2)

Hazardous Polymerization
Hazardous polymerization does not occur.

Hazardous Reactions
None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

Toxicologically Synergistic Products
No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation
No information available

Sensitization
No information available

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
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<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects
No information available

Reproductive Effects
No information available.

Developmental Effects
No information available.
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Teratogenicity  
No information available.

STOT - single exposure  
Respiratory system

STOT - repeated exposure  
None known

Aspiration hazard  
No information available

Symptoms / effects, both acute and delayed  
No information available

Endocrine Disruptor Information  
No information available

Other Adverse Effects  
The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity  
Do not empty into drains.

Persistence and Degradability  
Soluble in water. Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation  
No information available.

Mobility  
Will likely be mobile in the environment due to its water solubility.

13. Disposal considerations

Waste Disposal Methods  
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  
Not regulated

TDG  
Not regulated

IATA  
Not regulated

IMDG/IMO  
Not regulated

15. Regulatory information

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
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<td>X</td>
<td>-</td>
<td>241-087-7</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tr>
</tbody>
</table>

Legend:

X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations
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TSCA 12(b)  Not applicable
SARA 313  Not applicable

SARA 311/312 Hazardous Categorization
Acute Health Hazard  Yes
Chronic Health Hazard  No
Fire Hazard  No
Sudden Release of Pressure Hazard  No
Reactive Hazard  No

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

State Right-to-Know  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

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class  D2B  Toxic materials

16. Other information

Prepared By  Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date  12-Apr-2010
Revision Date  23-Oct-2014
Print Date  23-Oct-2014
Revision Summary
This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer
The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of SDS