SECTION 1. IDENTIFICATION

Product name: Eastman(TM) Benzoic Acid Technical Grade, Flake

Product code: 32645-0F, P32645FG, P32645F2, P32645F5, P32645F8, P32645F1, P32645FA, P32645F4, P32645F3, P32645F9, P32645F7, E32645F1, P32645FC, P32645FM, P32645FD, P32645F0

Manufacturer or supplier's details

Company name of supplier: Eastman Chemical Company

Address: 200 South Wilcox Drive
Kingsport TN 37660-5280

Telephone: (423) 229-2000

Emergency telephone: CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

Recommended use of the chemical and restrictions on use

Recommended use: Additive

Restrictions on use: None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Skin irritation: Category 2

Serious eye damage: Category 1

Specific target organ systemic toxicity - repeated exposure (Inhalation): Category 1 (Lungs)

GHS label elements

Hazard pictograms:

Signal Word: Danger

Hazard Statements:
H315 Causes skin irritation.
H318 Causes serious eye damage.
H372 Causes damage to organs (Lungs) through prolonged or repeated exposure if inhaled.
Precautionary Statements:

**Prevention:**
- P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/ eye protection/ face protection.

**Response:**
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
- P314 Get medical advice/ attention if you feel unwell.
- P332 + P313 If skin irritation occurs: Get medical advice/ attention.
- P362 Take off contaminated clothing and wash before reuse.

**Disposal:**
- P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards:
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.</td>
<td>65-85-0</td>
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<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
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<tbody>
<tr>
<td>benzoic acid</td>
<td>65-85-0</td>
<td>100</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

If inhaled:
- Move to fresh air.
- Call a physician or poison control center immediately.

In case of skin contact:
- Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
- Wash contaminated clothing before re-use.
- Get medical attention.
- Thoroughly clean shoes before re-use.

In case of eye contact:
- Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a POISON CENTER/doctor.
If swallowed : Seek medical advice.

Most important symptoms and effects, both acute and delayed

Health injuries may be delayed.

Irritation

Pain

Redness

Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO2)

Dry chemical

Water spray

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

Do NOT use water jet.

Specific hazards during fire fighting : None known.

Further information : None known.

Special protective equipment for fire-fighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Wear appropriate personal protective equipment.

Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions : Avoid release to the environment.

Methods and materials for containment and cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : None known.

Advice on safe handling : Avoid breathing dust.

Do not get in eyes.

Avoid contact with skin, eyes and clothing.
Do not swallow. 
Ensure adequate ventilation. 
Wash thoroughly after handling. 

Conditions for safe storage: Keep tightly closed. 

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION 

Ingredients with workplace control parameters: 
Contains no substances with occupational exposure limit values. 

Engineering measures: Good general ventilation (typically 10 air changes per hour) should be sufficient to control airborne levels. Ensure adequate ventilation. 

Personal protective equipment: 
Respiratory protection: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. 
Hand protection: 
Remarks: Wear suitable gloves. 
Eye protection: Wear safety glasses with side shields (or goggles). Face-shield 
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded. 
Protective measures: Remove respiratory and skin/eye protection only after vapors have been cleared from the area. Ensure that eye flushing systems and safety showers are located close to the working place. Use personal protective equipment as required. 
Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. 

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES 

Appearance: flakes 
Color: white 
Odor: slight, odorless 
Odor Threshold: not determined
pH: 2.8 (77 °F / 25 °C)

Melting point/range: 252.3 °F / 122.4 °C

Boiling point/boiling range: 480.6 °F / 249.2 °C

Flash point: Not applicable

Evaporation rate: not determined

Flammability (solid, gas): May form combustible dust concentrations in air during processing, handling or other means.

Self-ignition: Not applicable

Upper explosion limit / Upper flammability limit: not determined

Lower explosion limit / Lower flammability limit: not determined

Vapor pressure: 0.0011 hPa (68 °F / 20 °C)

Relative vapor density: not determined

Relative density: 1.321 (68 °F / 20 °C)

Solubility(ies)
  Water solubility: 3.5 g/l (77 °F / 25 °C)

Autoignition temperature: not determined

Decomposition temperature: Thermal stability not tested. Low stability hazard expected at normal operating temperatures.

Explosive properties: Not classified

Oxidizing properties: Not classified

Surface tension: 67.5 mN/m, 68 °F / 20 °C

SECTION 10. STABILITY AND REACTIVITY

Reactivity: None reasonably foreseeable.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Stable None known.
Conditions to avoid: None known.
Incompatible materials: Strong oxidizing agents
Hazardous decomposition products: Carbon dioxide (CO2), Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

**Product:**
- Acute oral toxicity: Remarks: May be harmful if swallowed.
- Acute inhalation toxicity: Remarks: No significant adverse effects were reported
- Acute dermal toxicity: Remarks: No significant adverse effects were reported

**Ingredients:**
- **benzoic acid:**
  - Acute oral toxicity: LD50 Oral (Rat): 2,565 mg/kg
  - Acute inhalation toxicity: LC50 (Rat): > 12.2 mg/l
    Exposure time: 4 h
    Remarks: (highest concentration tested)
  - Acute dermal toxicity: LD50 Dermal (Rabbit): > 2,000 mg/kg
    Remarks: (highest dose tested)

Skin corrosion/irritation

**Product:**
- Remarks: Causes skin irritation.

**Ingredients:**
- **benzoic acid:**
  - Species: Guinea pig
  - Exposure time: 24 h
  - Result: slight

Serious eye damage/eye irritation

**Product:**
- Remarks: Causes eye irritation.
Ingredients:
benzoic acid:
Species: Rabbit
Result: slight
Exposure time: 24 h

Respiratory or skin sensitization
Ingredients:
benzoic acid:
Test Type: Skin Sensitization
Species: Guinea pig
Result: non-sensitizing

Germ cell mutagenicity
Ingredients:
benzoic acid:
Genotoxicity in vitro:
Test Type: Salmonella typhimurium assay (Ames test)
Metabolic activation: +/- activation
Method: Bacterial Reverse Mutation Assay
Result: negative

Genotoxicity in vivo:
Species: Rat
Application Route: oral: gavage
Method: Mammalian Bone Marrow Chromosome Aberration Test
Result: negative
Remarks: Read-across from a similar material

Carcinogenicity
IARC
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

NTP
No ingredient of this product present at levels greater than or equal to 0.1% is
**SAFETY DATA SHEET**

**Eastman(TM) Benzoic Acid Technical Grade, Flake**

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
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<td>11/19/2018</td>
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<td>SDSUS / Z8 / 0001</td>
<td>Date of first issue: 09/06/2016</td>
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</table>

**Revised date:**

**SDS Number:** 150000071528

**Date of last issue:** -

**Date of first issue:** 09/06/2016

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**Repeated dose toxicity**

**Ingredients:**

**benzoic acid:**

<table>
<thead>
<tr>
<th>Species</th>
<th>NOAEL</th>
<th>Application Route</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>1,000 mg/kg</td>
<td>in feed</td>
<td>&gt; 90 d</td>
</tr>
<tr>
<td>Rabbit</td>
<td>2,500 mg/kg</td>
<td>Dermal</td>
<td>21 d</td>
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<tr>
<td>Rat</td>
<td>0.25 mg/l</td>
<td>Inhalation</td>
<td>20 d</td>
</tr>
</tbody>
</table>

**Aspiration toxicity**

**Product:**

No aspiration toxicity classification

**Further information**

**Product:**

Remarks: None known.

---

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ingredients:**

**benzoic acid:**

| Toxicity to fish          | LC50 (Lepomis macrochirus (Bluegill sunfish)): 44.6 mg/l |
|                          | Exposure time: 96 h                                      |
| LC50 (Oncorhynchus mykiss (rainbow trout)): 47.3 mg/l |
|                          | Exposure time: 96 h                                      |

| Toxicity to daphnia and other aquatic invertebrates | LC50 (Daphnia magna (Water flea)): > 100 mg/l |
|                                                      | Exposure time: 48 h                                |

| Toxicity to algae | EC50 (Pseudokirchneriella subcapitata (algae)): > 33.1 mg/l |
|                  | Exposure time: 72 h                                      |
Test Type: Growth inhibition

NOEC: (Chlorella pyrenoidosa): 3.4 mg/l
Exposure time: 72 h

Toxicity to fish (Chronic toxicity): NOEC: (Oncorhynchus mykiss (rainbow trout)): > 120 mg/l

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: (Daphnia magna (Water flea)): > 25 mg/l
Exposure time: 21 d

Persistence and degradability

Ingredients:

benzoic acid:

Biodegradability:
Concentration: 50 mg/l
Result: Readily biodegradable
Biodegradation: 89.5 %
Exposure time: 35 d

Bioaccumulative potential

Ingredients:

benzoic acid:

Bioaccumulation:
Remarks: Does not accumulate in organisms.

Mobility in soil
No data available

Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: Dispose of in accordance with local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

49 CFR
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
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<tbody>
<tr>
<td>benzoic acid</td>
<td>65-85-0</td>
<td>5000</td>
<td>5000</td>
</tr>
</tbody>
</table>

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards
Specific target organ toxicity (single or repeated exposure)  
Serious eye damage or eye irritation  
Skin corrosion or irritation

SARA 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

- DSL: All components of this product are on the Canadian DSL
- AICS: On the inventory, or in compliance with the inventory
- ENCS: On the inventory, or in compliance with the inventory
- ISHL: On the inventory, or in compliance with the inventory
- KECI: On the inventory, or in compliance with the inventory
- PICCS: On the inventory, or in compliance with the inventory
- IECSC: On the inventory, or in compliance with the inventory
- TCSI: On the inventory, or in compliance with the inventory
- TSCA: On the inventory, or in compliance with the inventory
TSCA list
No substances are subject to a Significant New Use Rule.
No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

**NFPA 704:**

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Instability</th>
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</thead>
<tbody>
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</table>

**HMIS® IV:**

<table>
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<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
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</thead>
<tbody>
<tr>
<td>*</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; 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; RO - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance 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

**Revision Date:** 11/19/2018

The information provided in this Material 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.