Standard Operating Procedure

Sodium benzoate

Please fill out the form completely. Print a copy and insert into your
*Laboratory Safety Manual* and *Chemical Hygiene Plan*.
Refer to instructions for assistance.

|  |  |
| --- | --- |
| **Department:** | Click here to enter text. |
| **Date SOP was written:** | Click here to enter a date. |
| **Date SOP was approved by PI/lab supervisor:** | Click here to enter a date. |
| **Principal Investigator:** | Click here to enter text. |
| **Internal Lab Safety Coordinator/Lab Manager:** | Click here to enter text. |
| **Lab Phone:** | Click here to enter text. |
| **Office Phone:** | Click here to enter text. |
| **Emergency Contact:** | Click here to enter text. |
| *(Name and Phone Number)* |
| **Location(s) covered by this SOP:** | Click here to enter text. |
| *(Building/Room Number)* |

**Type of SOP:** [ ]  Process [x] Hazardous Chemical [ ]  Hazardous Class

**Purpose**

Sodium benzoate is a preservative. As a food additive, sodium benzoate has the E number E211. It is bacteriostatic and fungistatic under acidic conditions. Sodium benzoate is used as a treatment for urea cycle disorders due to its ability to bind amino acids. It is also commonly used as a preservative on food products, medicine and pharmaceuticals.

**Physical & Chemical Properties/Definition of Chemical Group**

CAS#: 532-32-1

Class: **Organic acid, Sodium salt**

Molecular Formula: C5H5NaO2

Form (physical state): Solid

Color: White

Boiling point: NA

**Potential Hazards/Toxicity**

Sodium benzoate is a possible sensitizer. It may cause eye, skin and respiratory tract irritation. Ingestion of large amounts may cause gastrointestinal irritation.

**Personal Protective Equipment (PPE)**

**Respirator Protection**

Particulate (EN 143:2000 & 149:2001, ANSI Z88 or equivalent)

Respirators should be used only under any of the following circumstances:

* As a last line of defense (i.e., after engineering and administrative controls have been exhausted).
* When Permissible Exposure Limit (PEL) has exceeded or when there is a possibility that PEL will be exceeded.
* Regulations require the use of a respirator.
* An employer requires the use of a respirator.
* There is potential for harmful exposure due to an atmospheric contaminant (in the absence of PEL).
* As PPE in the event of a chemical spill clean-up process.

Lab personnel intending to use/wear a respirator mask must be trained and fit-tested by ORS and should contact occhealt@uga.edu. This is a UGA requirement described in more detail in the [UGA Respiratory Protection Plan](https://esd.uga.edu/sites/default/files/respiratoryprotection.pdf) and supported by the [Office of Research Occupational Health and Safety Program](https://research.uga.edu/ohsp/).

**Hand Protection**

Chemical resistant gloves. Polychloroprene, nitrile rubber, and butyl rubber are known to be suitable materials for undissolved dry solids. This material may be a sensitizer, so great care must be taken to avoid skin contact when removing contaminated gloves or other PPE.

NOTE: Consult with your preferred glove manufacturer to ensure that the gloves you plan on using are compatible with sodium benzoate.

Refer to glove selection chart from the links below:

<http://www.ansellpro.com/download/Ansell_8thEditionChemicalResistanceGuide.pdf>

OR

<http://www.allsafetyproducts.biz/page/74172>

OR

<http://www.showabestglove.com/site/default.aspx>

OR

<http://www.mapaglove.com/>

**Eye Protection**

Safety glasses with side shields.

**Skin and Body Protection**

Lab coats should be worn. These laboratory coats must be appropriately sized for the individual and be buttoned to their full length. Laboratory coat sleeves must be of a sufficient length to prevent skin exposure while wearing gloves. Full-length pants and close-toed shoes must be worn at all times by all individuals that are occupying the laboratory area. The area of skin between the shoe and ankle should not be exposed.

**Hygiene Measures**

Avoid all personal contact, especially skin contact. Avoid generating dust. Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds. Use in a well-ventilated area.

**Engineering Controls**

Use in a chemical fume hood.

**First Aid Procedures**

**If inhaled**

Remove to fresh air. If irritation or discomfort persist, seek medical attention.

**In case of skin contact**

Wash with soap and flush with water for at least 15 minutes.

**In case of eye contact**

Flush with water for at least 15 minutes. If irritation continues, seek medical attention.

**If swallowed**

Give victim a glass of water to drink. First aid is not generally required. If in doubt, contact a Poison Control Center or a doctor.

**Special Handling and Storage Requirements**

Avoid all personal contact, especially skin contact and inhalation. Use in a well-ventilated area. Minimize the formation of dust. Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds. Keep containers tightly sealed and in a cool, dry, well-ventilated area.

**Spill and Accident Procedure**

**Chemical Spill Dial 911**

**24-7 On-Call Response to Research, Environment, Health or Safety Concerns Dial 2-5561 from a campus phone or 706-542-5561 from a non-campus line.**

**Spill** – Follow the procedures set out in the [UGA Chemical and Laboratory Safety Manual.](http://research.uga.edu/docs/units/safety/manuals/Chemical-Laboratory-Safety-Manual.pdf)

[If there are any chemical-specific protocols for responding to a spill, insert them here or mark “none”:]

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# **Medical Emergency Dial 911**

**Life Threatening Emergency, After Hours, Weekends and Holidays** – Dial **911** or the emergency phone numbers listed at the beginning of the UGA Chemical and Laboratory Safety Manual.

*Note: All incidents that result in an injury or property damage must be reported to ORS / ESD using a University Incident/Accident Report.*

**Non-Life-Threatening Emergency** – Follow the instructions in the UGA Chemical and Laboratory Safety Manual.

*Note: All incidents that result in an injury or property damage must be reported to ORS / ESD using a University Incident/Accident Report.*

**Decontamination/Waste Disposal Procedure**

**For general hazardous waste disposal procedures, see Appendix H of the UGA Chemical and Laboratory Safety Manual.**

**Chemical Specific Procedures: [to be inserted or marked as “none”]**

Click here to enter text.

**Safety Data Sheet (SDS) Location**

UGA personnel can access Online SDS through a link in the upper left corner of the ESD home page (<https://esd.uga.edu>) and logging in by using their UGA email user name and password.

**Protocol/Procedure**

Click here to enter text.

**NOTE**

Any deviation from this SOP requires approval from PI.

**Documentation of Training** (signature of all users is required)

* Prior to conducting any work with sodium benzoate., designated personnel must provide training to his/her laboratory personnel specific to the hazards involved in working with this substance, work area decontamination, and emergency procedures.
* The Principal Investigator must provide his/her laboratory personnel with a copy of this SOP and access to the SDS provided by the manufacturer.
* The Principal Investigator must ensure that his/her laboratory personnel have attended appropriate laboratory safety training or refresher training within the last 12 months.

**Principal Investigator SOP Approval**

Print name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Approval Date:

I have read and understand the content of this SOP:

|  |  |  |
| --- | --- | --- |
| **Name** | **Signature** | **Date** |
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