

Material Safety Data Sheet SODIUM NITROPHENOLATE 1.8% SL

1. PRODUCT IDENTIFICATION

Product Name: Sodium Nitrophenolate 1.8% SL
 Common Name: sodium 5-nitrophenolate, sodium o-nitrophenolate, sodium p-nitrophenolate
 Chemical Family: Organic phenol
 Chemical Formula: $C_7H_6NO_4Na$, $C_6H_4NO_3Na$, $C_6H_4NO_3Na$
 Chemical Name: sodium 2-methoxy-5-nitrophenolate; sodium 2-nitrophenolate; sodium 4-nitrophenolate
 CAS No.: 67233-85-6, 824-39-5, 824-78-2
 Product Use: Plant Growth Regulator

2. COMPANY IDENTIFICATION:

Exporter:

CHICO CROP SCIENCE CO., LTD.

Add: Rm 903, Unit C, Tian An International Bldg., Renmin South Rd.,
Shenzhen, China.

Tel: 86-755-22969199 Fax: 86-755-25919993

E-mail: chico1@chicocrop.com

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient Name</u>	<u>CAS Registry Number</u>	<u>Typical Wt. w/w</u>
Sodium 5-nitroguaiacolate	67233-85-6	0.3%
Sodium o-nitrophenolate	824-39-5	0.6%
Sodium p-Nitrophenolate	824-78-2	0.9%
Inert	-	to balance

4. HAZARDS IDENTIFICATION

Emergency Overview

Dark brown liquid

CAUTION!

KEEP OUT OF REACH OF CHILDREN
 HARMFUL IF SWALLOWED OR INHALED.
 MAY CAUSED SKIN SLIGHT IRRITATION
 MAY CAUSED EYE SLIGHT IRRITATION



Potential Health effects

Dermal contact, ingest and inhalation of the product are the primary routes to induce potential adverse health effects. Eye and skin irritation may occur from contact with the liquid or spray mixture.

5. FIRST AID MEASURES

If swallowed: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

If in eye: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

If on skin: Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical attention if irritation develops or persists. Wash clothing before re-use.

If Inhaled: Move victim from contaminated area to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Notes to Physician: There is no specific antidote, Treat symptomatically.

6. FIRE FIGHTING MEASURES

Fire and explosive Properties

Auto-Ignition Temperature	No available
Flash Point	No available

Extinguishing Media

Use any means suitable for extinguishing surrounding fire.

Fire Fighting Instructions

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

7. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 9. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

8. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances.

9. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye/Face Protection

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection

Wear protective gloves and clean body-covering clothing.

Respiratory Protection

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

10. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Dark brown
Physical state:	liquid
Odor:	Slight characteristic odor.
pH:	7.0-9.0

Melting point	Decomposes above 145°C (sodium 5-nitroguaiacolate)
	Decomposes above 280 °C (sodium o-nitroguaiacolate)
	Decomposes above 175 °C (sodium p-nitroguaiacolate)

Boiling point:	100 °C
----------------	--------

Vapor pressure:

4.13×10^{-3} mPa (25 °C, gas saturation method) (sodium 5-nitroguaiacolate)
7.74×10^{-2} mPa (25 °C, gas saturation method) (sodium o-nitroguaiacolate)
$<1.33 \times 10^{-2}$ mPa (25 °C, gas saturation method) (sodium p-nitroguaiacolate)

Solubility in water:

In water 1.3 (pH 4), 1.8 (pH 7), 86.8 (pH 10) (all in g/l). (sodium 5-nitroguaiacolate)

In water 0.78 (pH 4), 2.8 (pH 7), 181.6 (pH 10) (all in g/l). (sodium o-nitroguaiacolate)

In water 14.7 (pH 4), 13.9 (pH 7), 57.4 (pH 10) (all in g/l). (sodium p-nitroguaiacolate)

Solubility in organic solvents:

In n-heptane 2.8, o-xylene 29, 1,2-dichloroethane 39, acetone 170, methanol 53000, ethyl acetate 59 (all in mg/l). (sodium 5-nitroguaiacolate)

In n-heptane <0.2, o-xylene <0.28, 1,2-dichloroethane <0.5, acetone 1200, methanol 47000, ethyl acetate 180 (all in mg/l). (sodium o-nitroguaiacolate)

In n-heptane 0.094, o-xylene 1.0, 1,2-dichloroethane 2.5, acetone 2400, methanol 181000, ethyl acetate 180 (all in mg/l). (sodium p-nitroguaiacolate)

Partition coefficient:

Kow logP = 1.49 (pH 4), 1.62 (pH 7), -0.25 (pH 10) (sodium 5-nitroguaiacolate)

Kow logP = 1.70 (pH 4), 1.12 (pH 7), -1.03 (pH 10) (sodium o-nitroguaiacolate)

Kow logP = 1.82 (pH 4), 1.28 (pH 7), -0.93 (pH 10) (sodium p-nitroguaiacolate)

11. STABILITY AND REACTIVITY

Stability

Stable under ordinary conditions of use and storage.

Hazardous Polymerization

Does not occur.

Incompatibility

Strong oxidizers.

Hazardous Decomposition Products

Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides.

12. TOXICOLOGICAL INFORMATION

Acute Oral: Acute oral LD50 for rats 716 mg/kg. (Sodium 5-nitroguaiacolate)

Acute oral LD50 for rats 960 mg/kg. (Sodium o-nitroguaiacolate)

Acute oral LD50 for rats 345 mg/kg. (Sodium p-nitroguaiacolate)

Acute Dermal: Acute percutaneous LD50 for rats >2000 mg/kg.

Irritation: Skin and eye irritant (rabbits).

Sensitization: Skin sensitizer (guinea pigs).

Long-term Studies:

NOAEL for maternal toxicity 300 mg/kg daily; for developmental toxicity 600 mg/kg daily.

13. ECOLOGICAL INFORMATION

Ecotoxicological Information

Effects on Birds: Acute oral LD50 for bobwhite quail 2067 mg/kg. Dietary LC50 for bobwhite quail >5620 ppm. (Sodium 5-nitroguaiacolate)

Acute oral LD50 for bobwhite quail 1046 mg/kg. Dietary LC50 for bobwhite quail >5620 ppm. (Sodium o-nitroguaiacolate)

Acute oral LD50 for bobwhite quail >2000 mg/kg. Dietary LC50 for bobwhite quail >5620 ppm. (Sodium p-nitroguaiacolate)

Effects on Fish: LC50 (96 h) for rainbow trout 37 mg/l. (sodium 5-nitroguaiacolate)

LC50 (96 h) for rainbow trout 69 mg/l. (sodium o-nitroguaiacolate)

LC50 (96 h) for rainbow trout 25 mg/l. (sodium p-nitroguaiacolate)

Effects on Daphnia: EC50 (48 h) 71.1 mg/l. (sodium 5-nitroguaiacolate)

EC50 (48 h) 68.8 mg/l. (sodium o-nitroguaiacolate)

EC50 (48 h) 27.7 mg/l. (sodium p-nitroguaiacolate)

Effects on Algae: EbC50 for *Scenedesmus subspicatus* 6.2 mg/l; ErC50 for *Scenedesmus subspicatus* 23.6 mg/l. (sodium 5-nitroguaiacolate)

EbC50 for *Scenedesmus subspicatus* 4.8 mg/l; ErC50 for *Scenedesmus subspicatus* 64.2 mg/l. (sodium o-nitroguaiacolate)

EbC50 for *Scenedesmus subspicatus* 2.5 mg/l; ErC50 for *Scenedesmus subspicatus* 10.8 mg/l. (sodium p-nitroguaiacolate)

Effects on Bees: Acute LD50 (contact) for honeybees >100 µg/bee.

Chemical Fate Information

Animals: Following oral administration, the majority of material was rapidly and completely absorbed and excreted, mainly via urine and mainly as glucuronides and sulphates of the nitrophenol components.

Plants: Following 3 applications to tomato plants at 10× field rates, only low residues (c. 0.05 mg/kg) were found at maturity in leaves and fruit. Some 5NG and pNP were found in the residues, along with unidentified metabolites.



Soli/Environment: Soil DT50 (20 °C) 0.1d; DT90 0.4d. (sodium 5-nitroguaiacolate)
Soil DT50 (20 °C) 0.4d; DT90 1.3d. (sodium o-nitroguaiacolate)
Soil DT50 (20 °C) 1.3d; DT90 4.4d. (sodium p-nitroguaiacolate)

14. DISPOSAL CONSIDERATIONS

Waste Disposal

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

15. TRANSPORT INFORMATION

UN Number: N/A

Dangerous Goods Class: 6.1

Packing Group: III

16. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

17. OTHER INFORMATION

The information contained herein relates only to the specific material identified. We believe that such information is accurate and reliable as of the date of this material safety data sheet, but no representation, guarantee or warranty, express or implied, is made as to the reliability or completeness of the information. Urge persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application.

Chico Crop Science Co., Ltd.