

SAFETY DATA SHEET

Version: v1

Revision Date: 2025-09-12

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : o-Nitrotoluene solution
Product Number : N104636
Brand : aladdin
CAS-No. : 88-72-2(Methanol)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquid: Category 2, H225

Acute toxicity, Oral (Category 4), H302

Germ cell mutagenicity (Category 1B), H340

Carcinogenicity (Category 1B), H350

Reproductive toxicity (Category 2), H361

Short-term (acute) aquatic hazard (Category 2), H401

Long-term (chronic) aquatic hazard (Category 2), H411

2.2 GHS Label elements, including precautionary statements

Pictogram



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Signal word	Danger
Hazard statement(s)	
H225	Highly Flammable liquid and vapor
H319	Causes serious eye irritation
H331	Toxic if inhaled
H360	May damage fertility or the unborn child
H370	Causes damage to organs
H372	Causes damage to organs through prolonged or repeated exposure
H301+H311	Toxic if swallowed or in contact with skin
H335+H336	May cause respiratory irritation,May cause drowsiness or dizziness
Precautionary statement(s)	
P210	Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/.../] equipment.
P243	Take precautionary measures against static discharge.
P330	Rinse mouth.
P361	Take off immediately all contaminated clothing.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
P303+P361+P353	IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P370+P378	In case of fire: Use ... to extinguish.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Synonyms	: 2-Nitrotoluene alpha-Methylnitrobenzene 1-methyl-2-nitro-Benzene
Formula	: no data available
Molecular weight	: no data available

Component	Classification	Concentration
Methanol		

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Component	Classification	Concentration
CAS-No. : 67-56-1 EC-No. :	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301, H331, H311, H370 Concentration limits: >= 10 %: STOT SE 1, H370; 3 - < 10 %: STOT SE 2, H371	
o-Nitrotoluene solution		
CAS-No. : 88-72-2 EC-No. : 201-853-3	Acute toxicity category 4; Caused by germ cells Category 1B for mutagenicity; Category 1B for carcinogenicity 1B; Reproductive toxicity category 2; acute (Short term) Aquatic hazard category 2; long Aquatic hazard category 2; H302, H340, H350, H361, H401, H411	

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

no data available

5.3 Advice for firefighters

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Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

no data available

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): Non-combustible, acute toxic Cat.1 and 2 / very toxic hazardous materials Dry storage.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of

workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact Material: butyl-rubber Minimum layer thickness: 0.3 mm Break through time: 480 min Material tested: Butoject®; (KCL 897 / Aldrich Z677647, Size M) Splash contact Material: Nature latex/chloroprene Minimum layer thickness: 0.6 mm Break through time: 30 min Material tested: Lapren®; (KCL 706 / Aldrich Z677558, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	form: Liquid color: Light Yellow to Yellow to Yellow-Green
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	-9°C
f) Initial boiling point and boiling range	222°C
g) Flash point	95
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available

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k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	1.163
n) Water solubility	Miscible with acetone, benzene, chloroform, diethyl ether, ethanol and petroleum ether. Immiscible with water.
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

The exothermic reaction occurs at: strong oxidant There is an explosion hazard associated with its effect: Sulfur Trioxide sulfuric acid reducing agent Increasing reactivity alkali amine

10.4 Conditions to avoid

Oxidizing agents, Strong bases

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

LD50 Oral - Rat - 891 mg/kg Inhalation: No data available Dermal: No data available No data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 891 mg/kg

Symptom: There is a risk of aspiration into the lungs after vomiting Inhalation may cause pulmonary edema and pneumonia.

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Note: (RTECS)

Oral: Absorption

Symptoms: Dizziness, nausea, vomiting

Inhalation: Absorption

Transdermal: Absorption

Skin corrosion/irritation

Skin - Rabbit Result: No skin irritation -24 hours (OECD Testing Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit Result: No eye irritation (OECD Testing Guideline 405)

Respiratory or skin sensitisation

May alter genetic material. In vivo tests showed mutagenic effects Hamster fibroblast Result: positive OECD Test Guideline 486 Rat - male Result: positive DNA damage

Germ cell mutagenicity

May cause genetic defects. Test Type: Ames Test System: Salmonella typhimurium Metabolic Activation: with or without Metabolic Activation Method: OECD Test Guideline 471 Result: Negative Test Type: Sister Chromatin Exchange Test System: Chinese Hamster Ovary Cell Metabolic Activation: with or without Metabolic Activation Method: OECD Test Guideline 479 Result: Positive Test Type: Mutability (Mammalian Cell Test): Chromosomal Variation Negative Test System: Chinese Hamster Ovary Cell Metabolic Activation: with or without Metabolic Activation Method: OECD Test Guideline 473 Result: Negative Test Type: Mutability (Mammalian Cell Test): Micronucleus Positive Testing System: Metabolic Activation of Chinese Hamster Lung Cells: with or without Metabolic Activation Method: OECD Testing Guideline 487 Result: Positive Test Type: Testicular Cell Unplanned DNA Synthesis Test (UDS) Species: Rat Cell Type: Liver Cell Infection Pathway: Oral Method: OECD Testing Guideline 486 Result: Positive

Carcinogenicity

Carcinogenicity - (ECHA) Assuming there is potential carcinogenicity in humans

Reproductive toxicity

Suspected of causing harm to fertility.

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

Toxicity to daphnia and other aquatic invertebrates Immobilization EC50 - Daphnia magna (Water flea) - 5.4 mg/l - 48 h (OECD Test Guideline 202) Toxicity to algae EC50 - Chlorella pyrenoidosa - 22 mg/l - 72 h (OECD Test Guideline 201)

Additional Information

Registration of toxic effects of chemical substances: XT3150000 can cause the formation of methemoglobin in human inhalation, and at a certain concentration, it can cause pale disease. It usually occurs after 2-4 hours or longer, and to our knowledge, the chemical, physical, and toxic properties of this have not been fully studied. System effects: Degenerative heminemia with headache, arrhythmia, decreased blood pressure, difficulty breathing, and spasms Main symptoms: cyanosis (Blood turns blue) Possible effects: Ethanol can cause redness in the face, neck, and arms, muscle relaxation, cardiovascular disorders, and chaotic absorption, which may lead to the following injuries: liver, kidney, and spleen. Data below applies to general aromatic nitrites. Systemic effects include heminemia with headache,

arrhythmia, decreased blood pressure, difficulty breathing, and spasms. Main symptoms include cyanosis (cyanosis)
This substance needs to be handled with special caution

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish LC50- *Poecillia reticulata* -30.1 mg/l -96 h Remarks: (ECOTOX database)

Toxicity to *Daphnia magna* and other aquatic invertebrates EC50- *Daphnia magna* -5.4 mg/l -48 h Remarks: (ECOTOX database)

Toxic growth inhibition of algae ErC50- *Chlorella pyrenoidosa* -22 mg/l-72 h (OECD testing guidelines 201) Growth inhibition NOEC - *Chlorella pyrenoidosa* -4.4 mg/l-72 h (OECD testing guidelines 201)

Toxicity to fish (chronic toxicity) NOEC - *Oryzias latipes* (Japanese medaka) -1.9 mg/l -28 days Remarks: (ECHA)

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.

12.6 Other adverse effects

no data available

SECTION 13:

13.1 Disposal considerations

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number: 1664

Packing group: II

Class: 6.1

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Proper shipping name: Ortho
nitrotoluene standard solution

Reportable Quantity(RQ): no data
available

Poison Inhalation Hazard: no data
available

Environmental Hazards: Yes

IMDG

UN number: 1664

Packing group: II

EMS-No: no data available

Proper shipping name: Ortho nitrotoluene standard solution

IATA

UN number: 1664

Packing group: II

Class: 6.1

Proper shipping name: Ortho nitrotoluene standard solution

SECTION 15: Regulatory information

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

SECTION 16: Other information

Prepared By

Regulatory Affairs

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Revision Summary

SDS sections updated v1

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