

ALADDIN SCIENTIFIC CORPORATION
14078 Meridian Parkway, Riverside, CA. 92518

SAFETY DATA SHEET

Version: v1
Revision Date: 2024-01-21
Print Date: 2024-01-26

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

1.1 Product identifiers

Product name : Tetrabutylammonium fluoride solution
Product Number : T106821
Brand : aladdin
CAS-No. : 429-41-4(THF)

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 liquids (Category 2), H225

Acute toxicity, Oral (Category 4), H302

Eye irritation (Category 2), H319

Carcinogenicity (Category 2), H351

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

2.2 GHS Label elements, including precautionary statements

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Pictogram



Signal word

Danger

Hazard statement(s)

H225 Highly Flammable liquid and vapor
 H302 Harmful if swallowed
 H319 Causes serious eye irritation
 H335 May cause respiratory irritation
 H336 May cause drowsiness or dizziness
 H351 Suspected of causing cancer

Precautionary statement(s)

P201 Obtain special instructions before use.
 P210 Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.
 P202 Do not handle until all safety precautions have been read and understood.
 P233 Keep container tightly closed.
 P240 Ground/bond container and receiving equipment.
 P241 Use explosion-proof [electrical/ventilating/lighting/.../] equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
 P264 Wash hands [and ...] thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P330 Rinse mouth.
 P301+P312 IF SWALLOWED: call a POISON CENTER/doctor/... IF you feel unwell.
 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.
 P308+P313 IF exposed or concerned: Get medical advice/attention.
 P337+P313 IF eye irritation persists: Get medical advice/attention.
 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.
 P304+P340+P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor. if you feel unwell.

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Synonyms	: TBAF solution; Tetrabutylammonium fluoride; TBAF; Tetra-n-butyl ammonium fluoride Tetrabutylammonium Fluoride Hydrate
Formula	: no data available
Molecular weight	: no data available

Component	Classification	Concentration
Tetrabutylammonium fluoride		
CAS-No. : 429-41-4	Acute toxicity category 4; Skin corrosion/thorns Excitation category 2;	
EC-No. :	Severe eye damage/eye damage Irritant category 2A; Acute (short-term) Aquatic hazard category 3; Long term aquatic hazards Hazard category 2; H302, H315, H319, H402, H411	
Tetrahydrofuran		
CAS-No. : 109-99-9	Flammable liquid category 2; acute toxicity category 4; serious eye	
EC-No. : 203-726-8	damage/eye irritation category 2A; carcinogenicity category 2; specific target organ toxicity (single contact) category 3; H225, H302, H319, H351, H335, H336	

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

no data available

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

Carbon dioxide (CO2) Foam Dry powder

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Carbon oxides Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage, including any incompatibilities

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Store in a cool place. Keep the container tightly closed and store in a dry and ventilated place. Sensitive to air and humidity, store at 2-8°C, filled with argon.

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 EN166(EU).

Skin protection

Gloves must be checked before use. Please use proper methods to remove the gloves (do not touch the outer surface of the gloves), and avoid any skin parts contacting the product. After use, please handle the contaminated gloves carefully according to relevant laws and regulations and effective laboratory rules and procedures. Please clean and blow dry the protective gloves selected for your hands must meet the specifications given in regulation (EU) 2016 / 425 and the en 374 standard derived from it.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., 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 fullface respirator with multi-purpose 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

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|--------------------|--|
| a) Appearance | form: Liquid color: Colorless to light yellow or brown |
| b) Odour | no data available |
| c) Odour Threshold | no data available |

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

d) pH	no data available
e) Melting point/freezing point	no data available
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	0.903
n) Water solubility	Miscible with tetrahydrofuran, acetonitrile, dimethyl sulfoxide and organic solvents.
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

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Heat, flames and sparks. Warming. Moisture

10.5 Incompatible materials

rubber, various plastics, Tin

10.6 Hazardous decomposition products

no data available

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - 1.650 mg/kg

Remarks: (ECHA) Symptoms: Irritation of mucous membranes

LC50 Inhalation - Rat - male and female - 4 h - > 16,9 mg/l (US-EPA)

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

LD50 Dermal - Rat - male an

Skin corrosion/irritation

Skin - Rabbit Result: No skin irritation - 72 h (Draize Test) Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Serious eye damage/eye irritation

Eyes - Rabbit Result: Eye irritation Remarks: (ECHA) (Regulation (EC) No 1272/2008, Annex VI)

Respiratory or skin sensitisation

Local lymph node assay (LLNA) - Mouse Result: Negative (OECD Test Guideline 429)

Germ cell mutagenicity

Local lymph node assay (LLNA) - Mouse Result: negative (OECD Test Guideline 429)

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

Inhalation - May cause respiratory irritation. - Respiratory system May cause drowsiness or dizziness. - Nervous system

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 28 d Remarks: (ECHA) RTECS: LU5950000 Central nervous system depression, Cough, chest pain, Difficulty in breathing, Exposure to high airborne concentrations can cause anesthetic effects. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. In high doses: somnolence narcosis Other dangerous properties can not be excluded. This substance should be handled with particular care.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish flow-through test LC50 - Pimephales promelas (fathead minnow) - 2.160 mg/l - 96 h

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - 3.485 mg/l - 48 h

(OECD Test Guideline 202)

Toxicity to bacteria static test EC20 - activated sudge - ca. 800 mg/l - 0,5 h

(OECD Test Guideline 209)

12.2 Persistence and degradability

Biodegradability aerobic Biochemical oxygen demand - Exposure time 28 d Result: 39 % - Not readily biodegradable.
(OECD Test Guideline 301D)

12.3 Bioaccumulative potential

No bioaccumulation is to be expected ($\log Pow \leq 4$).

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

SECTION 13:

13.1 Disposal considerations

Product

Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur.

Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number: 2056

Proper shipping name:

TETRAHYDROFURAN

Environmental Hazards: no

Packing group: II

Reportable Quantity(RQ): no data
available

Class: 3

Poison Inhalation Hazard: no data
available

IMDG

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

UN number: 2056	Packing group: II	EMS-No: no data available
Proper shipping name: TETRAHYDROFURAN		
IATA		
UN number: 2056	Packing group: II	Class: 3
Proper shipping name: TETRAHYDROFURAN		

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 ALADDIN SCIENTIFIC CORPORATION Email: QualityAssurance@aladdinsci.com
Creation Date	24-Dec-2021
Revision Date	21-Jan-2024
Print Date	26-Jan-2024
Revision Summary	SDS sections updated v1

Disclaimer

Copyright Aladdin Co. Ltd. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Aladdin Co. Ltd. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.