

MATERIAL SAFETY DATA SHEET

in accordance with 29 CFR 1910.1200 and ANSI standard Z400.1-2004

Date of print: 17.08.2011
Revision date: 10.08.2011
Date of first version: 10.08.2011

alpha,alpha,alpha-Trifluoro-o-toluidine

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1. Product and company identification

Product identifier

Trade name: alpha,alpha,alpha-Trifluoro-o-toluidine

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

General use Intermediate
For industrial purposes only.

Details of the supplier of the safety data sheet

Company name: Zhejiang Weihua Chemical Co. Ltd.
Street/POB-No.: 128# Industry Road Weihua Town
State/city/postal code: Dongyang City, Zhejiang Province, China 322109
Telephone: +86 579 86962888
Telefax: +86 579 86967298
Dept. responsible for information:
Bu Luzhou
Tel: +86 579 86962888
Email: blz@chinafluorochem.com

Emergency telephone number

GIZ-Nord, Germany, Telephone: +49 (0)551-19240

2. Hazards identification

Emergency overview

Physical state: liquid
Color: yellow
Odor: amine odor

Danger
harmful

Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and SIMDUT in Canada.

Potential Health Effects

Harmful if swallowed.
Risk of serious damage to eyes.

Information pertaining to special dangers for human and environment

refer to chapter 11: Toxicological information

Potential Environmental Effects

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

refer to chapter 12: Ecological information

3. Composition/ Information on ingredients

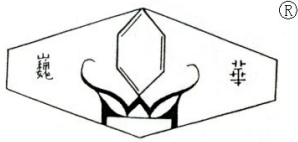
Chemical characterization (substance):

C7 H6 F3 N
alpha,alpha,alpha-Trifluoro-o-toluidine
2-Trifluoromethylaniline

CAS-Number: 88-17-5

4. First-aid measures

After inhalation: Provide fresh air. Seek medical treatment in case of troubles.



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- In case of skin contact: Wash with plenty of water. Immediately remove any contaminated clothing, shoes or stockings.
- After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.
- After swallowing: Immediately give large quantities of water to drink. Consult physician immediately.

Most important symptoms and effects, both acute and delayed

Irritant and corrosive effects.

Aromatic amines:

Headache, methaemoglobinaemia, cardiac arrhythmias, blood pressure drop, shortage of breath, spasms.

Key symptom: Cyanosis (blue coloration of the blood).

5. Firefighting measures

Flash point / flash point range:

132.8 °F

Suitable extinguishing media:

Water fog, carbon dioxide, foam, extinguishing powder.

Special hazards arising from the substance or mixture

Combustible Vapors are invisible, heavier than air and will travel at floor level.

. In case of strong heating: Vapors may form explosive mixtures with air.

In case of fire may be liberated: hydrogen fluoride, Carbon monoxide and carbon dioxide, nitrogen oxides (NOx).

Special protective equipment for firefighters:

Wear self-contained breathing apparatus.

To avoid contact with skin, keep safety distance and wear suitable protective clothing.

Additional information:

Cool exposed containers with water spray.

Use a water spray jet to knock down vapors/gases/mists.

Do not allow water used to extinguish fire to enter drains, ground or waterways. Treat runoff as hazardous.

6. Accidental release measures

Personal precautions:

Keep away from unprotected people. Contact expert. Avoid contact with the substance.

Do not breathe vapor or spray. Provide adequate ventilation. Wear protective equipment.

Environmental measures:

Do not allow to penetrate into soil, waterbodies or drains. Danger of explosion!

Inform the relevant authorities in case of leakage into sewers, aquatic environment or soil.

Methods for cleaning up:

Collect dry and place in appropriate containers for disposal, cleaning.

7. Handling and storage

Handling

Advices on safe handling

Avoid contact with skin and eyes. Avoid generation of dust.

Strictly avoid inhalation of dusts.

Provide adequate ventilation, and local exhaust as needed.

Precautions against fire and explosion:

Keep away from heat sources, sparks and open flames.

Take precautionary measures against static discharge.

Storage

Requirements for storerooms and containers:

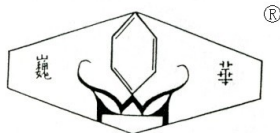
Keep container tightly closed and dry.

Keep in a cool, well-ventilated place.

Storage temperature: 59 °F up to 77 °F.

Hints on joint storage

Keep away from food, drink and animal feeding stuffs.



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8. Exposure controls / personal protection

Engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Provide for good ventilation or exhaust system or work with completely self-contained equipment.

See also information in chapter 7, section storage.

Eye protection: Tightly sealed safety glasses according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2003.

Body protection: Flame-resistant antistatic protective clothing.
Protective gloves according to OSHA Standard - 29 CFR: 1910.138.
Glove material: Butyl caoutchouc (butyl rubber) - Layer thickness: 0,7 mm.
Breakthrough time: > 480 min.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Personal protection equipment

Respiratory protection: Use a breathing protection against vapors/aerosol.

General protection and hygiene measures:

Immediately remove any contaminated clothing, shoes or stockings.

After work, wash hands and face.

When using do not eat, drink or smoke.

Avoid contact with skin and eyes.

Do not breathe vapor or spray. Do not empty into drains.

Work place should be equipped with a shower and an eye rinsing apparatus.

9. Physical and chemical properties

Appearance

Physical state: liquid
Color: yellow
Odor: amine odor

Important health, safety and environmental information

Boiling temperature / boiling range: 338 - 341,6 °F (20 hPa)
Melting point / melting range: -27.4 °F
Flash point / flash point range: 132.8 °F
Vapor pressure: 1.3 hPa
Density: at 68 °F: 1.30 g/mL
Water solubility: at 68 °F: 4 g/L
Partition coefficient n-octanol /water: 2.41 log P(o/w) (experimental)
Appreciable bio-accumulation is not to be expected (log P(o/w) 1-3).

Additional information

Molecular weight: 161,12 g/mol

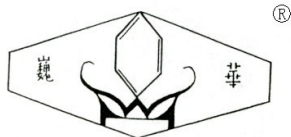
10. Stability and reactivity

In case of strong heating: Vapors may form explosive mixtures with air.
Light-sensitive, sensitive to air.

Chemical stability: Product is stable under normal storage conditions.

Polymerization: Violent reaction with: oxidizing agents, reducing agent, acids.

Conditions to avoid: Keep away from heat.



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Hazardous decomposition products

In case of fire may be liberated: hydrogen fluoride, Carbon monoxide and carbon dioxide, nitrogen oxides (NO_x).

11. Toxicological information

Toxicological Tests:

Acute toxicity:

LD50 Rat, oral: 480 mg/kg (By analogy)

After swallowing: Harmful. Risk of resorption..

In case of skin contact: Mild irritant. Danger of cutaneous absorption.

After eye contact: Risk of serious damage to eyes.

Rabbit: strongly irritant.

12. Ecological information

Ecotoxicity

Aquatic toxicity: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Fish toxicity: LC50 Danio rerio: 35 mg/L/96h (By analogy).

Additional ecological information

Volatile organic compounds (VOC):

0 % by weight

General information: Do not allow to enter into ground-water, surface water or drains.

13. Disposal considerations

Product

Recommendation: Special waste. Dispose of waste according to applicable legislation.

Contaminated packaging

Recommendation: Dispose of waste according to applicable legislation. Handle contaminated packages in the same way as the substance itself.

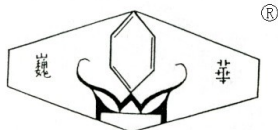
Non-contaminated packages may be recycled.

14. Transport information

USA: Department of Transportation (DOT)

Identification Numbers	UN2942
Proper Shipping Name	UN 2942, 2-Trifluoromethylaniline
DOT Hazard Class or Division	6.1
PG	III
Label Codes	6.1
Special Provisions	IB3
Packaging: Exceptions	153
Packaging: Non-bulk	203
Packaging: Bulk	241
Quantity Limitations: Passenger Aircraft / Rail	60 L
Quantity Limitations: Cargo only	220 L
Vessel Stowage: Location	A





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Sea transport (IMDG)

UN number:	2942
Proper shipping name:	UN 2942, 2-TRIFLUOROMETHYLANILINE
IMDG:	Class 6.1, Code -
Packing Group:	III
EmS:	F-A, S-A
Special provisions	-
Limited quantities	5 L
EQ	E1
Contaminated packaging: Instructions	P001, LP01
Contaminated packaging: Provisions	-
IBC: Instructions	IBC03
IBC: Provisions	-
Tank instructions: IMO	-
Tank instructions: UN	-
Tank instructions Provisions	-
Stowage and segregation	Category A.
Properties and observations	Liquid. Immiscible with water. Toxic if swallowed, by skin contact or by inhalation.
Marine Pollutant	Yes

Air transport (IATA)

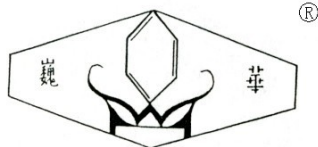
UN/ID number:	2942
Proper shipping name:	UN 2942, 2-TRIFLUOROMETHYLANILINE
ICAO/IATA:	Class 6.1
PG	III
Hazard	Toxic
EQ	E1
Passenger Ltd.Qty.:	Pack.Instr. Y642 - Max.Qty. 2 L
Passenger:	Pack.Instr. 655 - Max.Qty. 60 L
Cargo:	Pack.Instr. 663 - Max.Qty. 220 L
ERG	6L

Land transport (ADR/RID)

Warning board:	ADR/RID: Kemmler-number 60, UN number 2942
Product designation:	UN 2942, 2-TRIFLUOROMETHYLANILINE
ADR/RID	Class 6.1, Code: T1
Packing group	III
Hazard label	6.1
Limited quantities	5 L
EQ	E1
Contaminated packaging: Instructions	P001 IBC03 LP01 R001
Special provisions for packing together	MP19
Tank coding	L4BH
Tunnel restriction code:	E

Canada: Transportation of Dangerous Goods (TDG)

UN Number	UN2942
Shipping Name	UN 2942, 2-TRIFLUOROMETHYLANILINE
TDG Class	6.1
Packing Group	III
Explosive Limit and Limited Quantity Index	5
Passenger Carrying Road or Rail Index	60



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15. Regulatory information

U.S. Federal Regulations

TSCA Inventory: listed
TSCA HPVC: not listed

National regulations - EC member states

EINECS-Number: 201-806-7

Labeling (67/548/EEC or 1999/45/EC)

Code letter and hazard symbol:

Xn harmful
N dangerous for the environment

R phrase(s): R 22 Harmful if swallowed.
R 41 Risk of serious damage to eyes.
R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S phrase(s): S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 39 Wear eye/face protection.
S 61 Avoid release to the environment. Refer to special instructions / safety data sheet.



Signal word

Danger

Hazard statements

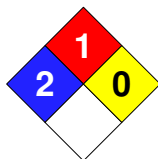
H226 Flammable liquid and vapor.
H302 Harmful if swallowed.
H318 Causes serious eye damage.
H411 Toxic to aquatic life with long lasting effects.

Safety precautions

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P243 Take precautionary measures against static discharge.
P264 Wash hands and face thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.
P313 Get medical advice/ attention.

16. Other information

Hazard rating systems



Observe the usage / storage instructions.

NFPA Hazard Rating:

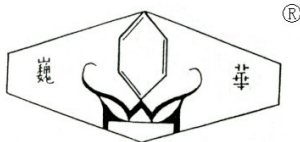
Health: 2 (Moderate)
Fire: 1 (Slight)
Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 2 (Moderate)
Flammability: 1 (Slight)
Physical Hazard: 0 (Minimal)

Personal Protection: X = Consult your supervisor

HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	0
	X



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Group that issues data sheet

Contact person: see chapter 1, department responsible for information.

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.