Thermo Fisher SCIENTIFIC

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1 Identification

Product identifier

Product name: 2,4,6-Tri-tert-butylaniline

Stock number: L01362 CAS Number: 961-38-6 EC number: 213-507-9

Relevant identified uses of the substance or mixture and uses advised against. Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet Manufacturer/Supplier:

Alfa Aesar Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street

30 Bond Street Ward Hill, MA 01835-8099 Tel: 800-343-0660 Fax: 800-322-4757 Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number: During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

H315 Causes skin irritation. Skin Irrit. 2

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Hazards not otherwise classified No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms



Signal word Danger

Hazard statements H302+H312 Harmful if swallowed or in contact with skin.

H331 H315 Toxic if inhaled. Causes skin irritation.

Causes serious eye irritation. May cause respiratory irritation.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Store locked up.

Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

D1B - Toxic material causing immediate and serious toxic effects

D2B - Toxic material causing other toxic effects





Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System)



Health (acute effects) = 3
Flammability = 1
ACTIVITY 1 Physical Hazard = 1

Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances CAS# Description: 961-38-6 2,4,6-Tri-tert-butylaniline

(Contd. on page 2)

Product name: 2,4,6-Tri-tert-butylaniline

Concentration: ≤100% Identification number(s): EC number: 213-507-9 (Contd. of page 1)

4 First-aid measures

Description of first aid measures

After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
After skin contact

Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing Seek medical treatment.
Information for doctor

Most important symptoms and effects, both acute and delayed Causes skin irritation.
Harmful if swallowed. Causes serious eve irritation. Harmful in contact with skin. Toxic if inhaled.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Environmental precautions: Do not allow product to reach sewage system or any water course.

Environmental precautions: Do not allow product to reach sewage Methods and material for containment and cleaning up: Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation.

Prevention of secondary hazards: No special measures required. Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

Protective Action Criteria for Chemicals

PAC-1: Substance is not listed

PAC-1: Substance is not listed. PAC-2: Substance is not listed.

PAC-3: Substance is not listed.

7 Handling and storage

Handling Precautions for safe handling

Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Information about protection against explosions and fires: No information known.

Conditions for safe storage, including any incompatibilities

Storage
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility:

Information about storage in one common storage facility
Store in the dark.
Store away from oxidizing agents.
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from exposure to light.
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: No data

Exposure controls
Personal protective equipment
General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.

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Product name: 2,4,6-Tri-tert-butylaniline

Breathing equipment: Use suitable respirator when high concentrations are present.

Recommended filter device for short term use:
Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if airpurifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of hands:

Impervious gloves
Impervious gloves
Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Material of gloves Nitrile rubber, NBR

Material of gloves Nitrile rubber, NBR

Penetration time of glove material (in minutes) 480

Glove thickness: 0.11 mm

Eye protection: Safety glasses with side shields / NIOSH (US) or EN 166(EU) Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance: Form:

Odor:

Odor threshold:

pH-value:

Change in condition
Melting point/Melting range:
Boiling point/Boiling range:
Sublimation temperature / start:
Flammability (solid, gaseous)
Ignition temperature:
Decomposition temperature:
Auto ignition:

Auto igniting:

Danger of explosion: Explosion limits: Lower: Upper:

Upper:
Vapor pressure:
Density:
Relative density
Vapor density
Evaporation rate
Solubility in / Miscibility with
Water

Viscosity:
dynamic:
kinematic:
Other information

Not determined Not determined Not determined. Not determined.

Crystalline Not determined

Not determined.

Not applicable

144-147 °C (291-297 °F) Not determined Not determined Not determined

Not determined Not determined Not applicable. Not determined Not determined. Not applicable. Not applicable.

Insoluble Partition coefficient (n-octanol/water): Not determined. Not applicable.

Not applicable. No further relevant information available.

10 Stability and reactivity

Reactivity No information known.
Chemical stability Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions Reacts with strong oxidizing agents
Conditions to avoid No further relevant information available.

Incompatible materials:

Oxidizing agents

Light
Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Nitrogen oxides

11 Toxicological information

Information on toxicological effects

Information on toxicological effects
Acute toxicity:
Harmful in contact with skin.
Harmful if swallowed.
Toxic if inhaled.
Danger through skin absorption.
LD/LC50 values that are relevant for classification: No data
Skin irritation or corrosion: May cause irritation
Eye irritation or corrosion: May cause irritation
Sensitization: No sensitizing effects known.
Germ cell mutagenicity: No effects known.
Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Percoductive toxicity: No effects known.

Specific target organ system toxicity - repeated exposure: No effects known.

Specific target organ system toxicity - single exposure: May cause respiratory irritation.

Aspiration hazard: No effects known.

Subacute to chronic toxicity: No effects known.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Bioaccumulative potential No further relevant information available.

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Product name: 2,4,6-Tri-tert-butylaniline

Mobility in soil No further relevant information available.
Additional ecological information:
General notes:

Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.
Avoid transfer into the environment.
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects No further relevant information available.

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.

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14 Transport information	
UN-Number DOT, IMDG, IATA	UN2811
UN proper shipping name DOT ADR IMDG, IATA	Toxic solids, organic, n.o.s. (2,4,6-Tri-tert-butylaniline) 2811 Toxic solids, organic, n.o.s. (2,4,6-Tri-tert-butylaniline) TOXIC SOLID, ORGANIC, N.O.S. (2,4,6-Tri-tert-butylaniline)
Transport hazard class(es)	
DOT Class	6.1 Toxic substances
Label ADR	6.1
Class Label IMDG, IATA	6.1 (T2) Toxic substances 6.1
Class Label	6.1 Toxic substances 6.1
Packing group DOT, ADR, IMDG, IATA	III
Environmental hazards:	Not applicable.
Special precautions for user EMS Number: Stowage Category	Warning: Toxic substances F-A,S-A A
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.	
Transport/Additional information:	
DOT Quantity limitations	On passenger aircraft/rail: 100 kg On cargo aircraft only: 200 kg
Marine Pollutant (DOT):	No
IMDG Limited quantities (LQ) Excepted quantities (EQ)	5 kg Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
UN "Model Regulation":	UN 2811 TOXIC SOLIDS, ORGANIC, N.O.S. (2,4,6-TRI-TERT-BUTYLANILINE),

6.1, III

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms



GHS06

Signal word Danger
Hazard statements
H302+H312 Harmful if swallowed or in contact with skin.
H331 Toxic if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapors/spray

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(Contd. of page 4)

Product name: 2,4,6-Tri-tert-butylaniline

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P405 Store locked up.
Dispose of contents/container in a second protection.
Dispose of contents/container in a second protection.

Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations
This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only. This product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes.

This product is not listed on the Canadian Domestic Substances List (DSL) or the Canadian Non-Domestic Substances List (NDSL).

SARA Section 313 (specific toxic chemical listings) Substance is not listed.

California Proposition 65
Prop 65 - Chemicals known to cause cancer Substance is not listed.

Prop 65 - Developmental toxicity Substance is not listed.

Prop 65 - Developmental toxicity, female Substance is not listed.

Prop 65 - Developmental toxicity, male Substance is not listed.

Information about limitation of use: For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user. Conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department
Date of preparation/Revision: Print date, revision date and version number are in the header of each page.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal dose, 50 percent
LD50: Lethal dose, 50 percent
LD50: Destination, 50 percent
LD50: Lethal dose, 50 percent
COSHA: Occumulative and Toxic
SVHC: Substances of Very High Concern
VPUS: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
NTP: National Toxicology Program (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)
Acute Tox. 4: Acute toxicity — Category 4
Acute Tox. 5: Skin cornosion/irritation — Category 2
Eye Imit. 24: Serious eye damage/eye irritation — Category 2
Eye Imit. 24: Serious eye damage/eye irritation — Category 3