1 Identification

Product identifier

Product name: 2,3-Benzofuran

Stock number: A15225, L00447

CAS Number: 271-89-6

EC number: 205-982-6

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

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)

GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.

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

GHS02 GHS08

Signal word Warning

Hazard statements

H226 Flammable liquid and vapour.

H351 Suspected of causing cancer.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P281 Use personal protective equipment as required.

P303+P361+P353 If on skin (or hair). Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

B3 - Combustible liquid

D2A - Very toxic material causing other toxic effects

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

FIRE Health (acute effects) = 1

HEAT Flammability = 2

PHYSICAL 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: 271-89-6 2,3-Benzofuran

Identification number(s):

EC number: 205-982-6

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.
Safety Data Sheet
per OSHA HazCom 2012

Product name: 2,3-Benzofuran

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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
No further relevant information available.

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

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents in case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

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

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 material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up:

Keep away from ignition sources.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Disperse or dilute 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.

7 Handling and storage

Handling
Precautions for safe handling
Keep container tightly sealed.
Ensure good ventilation at the workplace.
Prevent formation of aerosols.

Information about protection against explosions and fires: Keep ignition sources away.

Conditions for safe storage, including any incompatibilities

Storage
Requirements to be met by storerooms and receptacles: Refrigerate

Information about storage in one common storage facility:
Keep away from heat and direct sunlight.
Store away from oxidizing agents.
Protect from heat.

Further information about storage conditions:
Keep container tightly sealed.
Refrigerate

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: Not required.

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.
Maintain an ergonomically appropriate working environment.

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

Protection of hands:

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.

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: Liquid
Color: Colorless
Odor: Aromatic
Odor threshold: Not determined.

pH-value: Not determined.
### 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** No dangerous reactions known

**Conditions to avoid** No further relevant information available.

**Incompatible materials**
- Oxidizing agents
- Heat

**Hazardous decomposition products** Carbon monoxide and carbon dioxide

### 11 Toxicological information

**Information on toxicological effects**
- **Acute toxicity** No effects known.
- **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** Suspected of causing cancer.
- **IARC-2B** Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals.
- **Reproductive toxicity** No effects known.
- **Specific target organ system toxicity - repeated exposure** No effects known.
- **Specific target organ system toxicity - single exposure** No effects known.
- **Aspiration hazard** No effects known.
- **Other information (about experimental toxicology)**
- **Mutagenic effects** have been observed on tests with laboratory animals.
- **Tumorigenic effects** have been observed on tests with laboratory animals.
- **Subacute to chronic toxicity**
- **The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:**
  - Related to Chronic Data - death.
  - Kidney, Ureter, Bladder - changes in tubules (including acute renal failure, acute tubular necrosis).
  - Kidney, Ureter, Bladder - changes in both tubules and glomeruli.
  - Kidney, Ureter, Bladder - kidney tumors.
  - Gastrointestinal - tumors.
  - Tumorigenic - carcinogenic by RTECS criteria.
- **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.

**Mobility in soil** No further relevant information available.

**Additional ecological information**
- **General notes**
  - Do not allow material to be released to the environment without proper governmental permits.
  - 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.

### 13 Disposal considerations

**Waste treatment methods**
Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings**
Recommendation: Disposal must be made according to official regulations.

*USA* (Contd. on page 4)
14 Transport Information

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Transport hazard class(es)

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Packing group

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Environmental hazards:

Not applicable.

Special precautions for user

Warning: Flammable liquids

Transport/Additional information:

Marine Pollutant (DOT): No

UN "Model Regulation":

UN1993, Flammable liquids, n.o.s. (2,3-Benzofuran), 3, 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

GH502 GHS08

Signal word Warning

Hazard statements

H226 Flammable liquid and vapour.
H351 Suspected of causing cancer.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260 Wear protective gloves/protective clothing/eye protection/face protection.
P261 Use personal protective equipment as required.
P303+P361+P353+P360+P32+P35/36 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

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

California Proposition 65

Prop 65 - Chemicals known to cause cancer

271-89-6 2,3-Benzofuran

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.

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 Material 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 / last revision 11/23/2015 / -

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ADMR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
IATA-DGR: Dangerous Goods Regulations by the "International Civil Aviation Organization" (ICAO)
IATA-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
ADN: 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
EMECS: European Inventory of Existing Commercial Chemical Substances

(Contd. on page 5)
Product name: 2,3-Benzofuran

CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)