

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**Trade name ***Di-n-butyl phthalate***

Stock number: A13257

CAS Number:

84-74-2

EC number:

201-557-4

Index number:

607-318-00-4

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

Identified use: SU24 Scientific research and development

**1.3 Details of the supplier of the safety data sheet**

Manufacturer/Supplier:

Thermo Fisher (Kandel) GmbH

Zeppelinstr. 7b

76185 Karlsruhe / Germany

Tel: +49 (0) 721 84007 280

Fax: +49 (0) 721 84007 300

Email: tech@alfa.com

www.alfa.com

Informing department: Product safety Tel + +049 (0) 7275 988687-0

**1.4 Emergency telephone number:**

Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)

Poison Information Center Mainz

www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Repr. 1B H360Df May damage the unborn child. Suspected of damaging fertility.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T; Toxic

Repr. Cat. 2, 3

R61: May cause harm to the unborn child.



Xn; Harmful

R62: Possible risk of impaired fertility.



N; Dangerous for the environment

R50: Very toxic to aquatic organisms.

Information concerning particular hazards for human and environment: Not applicable

Other hazards that do not result in classification: No information known.

**2.2 Label elements**

Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation.

**Hazard pictograms**

GHS08 GHS09

Signal word Danger

**Hazard statements**

H360Df May damage the unborn child. Suspected of damaging fertility.

H400 Very toxic to aquatic life.

**Precautionary statements**

P281 Use personal protective equipment as required.

P273 Avoid release to the environment.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P391 Collect spillage.

P405 Store locked up.

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

**2.3 Other hazards****Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

**SECTION 3: Composition/information on ingredients****3.1 Substances**

CAS# Designation:

84-74-2 Di-n-butyl phthalate

Identification number(s):

EC number: 201-557-4

Index number: 607-318-00-4

**SECTION 4: First aid measures****4.1 Description of first aid measures****After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

**After skin contact**

Instantly wash with water and soap and rinse thoroughly.

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Seek immediate medical advice.  
**After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.  
**After swallowing** Seek medical treatment.  
**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.  
**4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**  
**Suitable extinguishing agents** CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.  
**5.2 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  
**5.3 Advice for firefighters**  
**Protective equipment:**  
Wear self-contained breathing apparatus.  
Wear full protective suit.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
**6.2 Environmental precautions:** Do not allow material to be released to the environment without proper governmental permits.  
**6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of contaminated material as waste according to section 13.  
**Prevention of secondary hazards:** No special measures required.  
**6.4 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 information on disposal.

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**  
Keep containers tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle container with care.  
**Information about protection against explosions and fires:** No information known.  
**7.2 Conditions for safe storage, including any incompatibilities**  
**Storage**  
**Requirements to be met by storerooms and containers:** No special requirements.  
**Information about storage in one common storage facility:**  
Do not store together with acids.  
Store away from strong bases.  
Store away from oxidising agents.  
**Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
Store in a locked cabinet or with access restricted to technical experts or their assistants.  
**7.3 Specific end use(s)** No further relevant information available.

**SECTION 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.

**8.1 Control parameters**

**Components with critical values that require monitoring at the workplace:**

**84-74-2 Di-n-butyl phthalate (100,0%)**

AGW (Germany)	Long-term value: 0,58 mg/m <sup>3</sup> , 0,05 ppm 2(I);DFG, Y, 11
PEL (USA)	Long-term value: 5 mg/m <sup>3</sup>
REL (USA)	Long-term value: 5 mg/m <sup>3</sup>
TLV (USA)	Long-term value: 5 mg/m <sup>3</sup>

**Additional information:** No data

**8.2 Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Store protective clothing separately.

Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use breathing protection with high concentrations.

**Recommended filter device for short term use:**

Use a respirator with organic vapor/acid gas cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU).

**Protection of hands:**

Check protective gloves prior to each use for their proper condition.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

**Material of gloves** Latex/chloroprene

**Penetration time of glove material (in minutes)** 480

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

**General Information**

**Appearance:**

<b>Form:</b>	Liquid
<b>Colour:</b>	Colourless
<b>Smell:</b>	Odourless
<b>Odour threshold:</b>	Not determined.

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**pH-value:** Not determined.

**Change in condition**

**Melting point/Melting range:** -35 °C  
**Boiling point/Boiling range:** 339-340 °C  
**Sublimation temperature / start:** Not determined

**Flash point:** 171 °C  
**Inflammability (solid, gaseous):** Not applicable.  
**Ignition temperature:** 402 °C  
**Decomposition temperature:** Not determined  
**Self-inflammability:** Not determined.

**Danger of explosion:** Product is not explosive.

**Critical values for explosion:**

**Lower:** 0,47 Vol %  
**Upper:** 1,97 Vol %  
**Steam pressure at 162 °C:** 2,6 hPa  
**Density at 20 °C:** 1,045 g/cm<sup>3</sup>  
**Relative density:** Not determined.  
**Vapour density:** Not determined.  
**Evaporation rate:** Not determined.

**Solubility in / Miscibility with Water at 20 °C:** 0,4 g/l  
**Partition coefficient (n-octanol/water):** Not determined.

**Viscosity:**  
**dynamic:** Not determined.  
**kinematic:** Not determined.

**9.2 Other information** No further relevant information available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity** No information known.

**10.2 Chemical stability** Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.

**10.3 Possibility of hazardous reactions** Reacts with strong oxidising agents

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

**10.5 Incompatible materials:**

Acids  
Oxidising agents  
Bases

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

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

**LD/LC50 values that are relevant for classification:**

Oral	LD50	10 gm/kg (guinea pig)
		5 gm/kg (mam)
		3474 mg/kg (mouse)
		7499 mg/kg (rat)
Inhalative	LC50	4250 mg/m3 (rat)
	LC50/2H	25000 mg/m3/2H (mouse)

**Skin irritation or corrosion:** May cause irritation

**Eye irritation or corrosion:** May cause irritation

**Sensitization:** No sensitizing effect known.

**Germ cell mutagenicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

**Carcinogenicity:**

EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.

**Reproductive toxicity:**

May damage fertility or the unborn child.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

**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.

**Subacute to chronic toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

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

**SECTION 12: Ecological information**

**12.1 Toxicity**

**Aquatic toxicity:** No further relevant information available.

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

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

**Ecotoxicological effects:**

**Remark:** Very toxic for fish

**Additional ecological information:**

**General notes:**

Do not allow product to reach ground water, water bodies or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

Water hazard class 2 (Assessment by list): hazardous for water.

Danger to drinking water if even small quantities leak into soil.

Also poisonous for fish and plankton in water bodies.

Avoid transfer into the environment.

Very toxic for aquatic organisms

**12.5 Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Other adverse effects** No further relevant information available.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Recommendation**

Hand over to disposers of hazardous waste.

Must be specially treated under adherence to official regulations.



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Consult state, local or national regulations for proper disposal.  
**Uncleaned packagings:**  
**Recommendation:** Disposal must be made according to official regulations.

**SECTION 14: Transport information**

<b>UN-Number</b> <b>ADR, IMDG, IATA</b>	UN3082
<b>14.2 UN proper shipping name</b> <b>ADR</b>	3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Di-n-butyl phthalate)
<b>IMDG</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Di-n-butyl phthalate), MARINE POLLUTANT
<b>IATA</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Di-n-butyl phthalate)
<b>14.3 Transport hazard class(es)</b> <b>ADR</b>	
	
<b>Class</b> <b>Label</b> <b>IMDG, IATA</b>	9 (M6) Miscellaneous dangerous substances and articles. 9
	
<b>Class</b> <b>Label</b>	9 Miscellaneous dangerous substances and articles. 9
<b>Packing group</b> <b>ADR, IMDG, IATA</b>	III
<b>14.5 Environmental hazards:</b> <b>Marine pollutant:</b>	Yes (P) Symbol (fish and tree)
<b>Special marking (ADR):</b> <b>Special marking (IATA):</b>	Symbol (fish and tree) Symbol (fish and tree)
<b>14.6 Special precautions for user</b> <b>Kemler Number:</b> <b>EMS Number:</b>	Warning: Miscellaneous dangerous substances and articles. 90 F-A,S-F
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>Transport/Additional information:</b>	
<b>ADR</b> <b>Excepted quantities (EQ):</b> <b>Limited quantities (LQ)</b> <b>Transport category</b> <b>Tunnel restriction code</b>	E1 5L 3 E
<b>UN "Model Regulation":</b>	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Di-n-butyl phthalate), 9, III

**SECTION 15: Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Australian Inventory of Chemical Substances** Substance is listed.  
**Standard for the Uniform Scheduling of Drugs and Poisons** Substance is not listed.

**National regulations**

**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.  
Employment restrictions concerning women of child-bearing age must be observed.  
For use only by technically qualified individuals.

**Classification according to VbF:** Not applicable

**Technical instructions (air):**

Class	Share in %
I	100,0

**Water hazard class:** Water hazard class 2 (Assessment by list): hazardous for water.

**Other regulations, limitations and prohibitive regulations**

**ELINCS (European List of Notified Chemical Substances)** Substance is not listed.

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.**

This substance is included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH).

**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 listed.

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

**SECTION 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

**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)  
ICAO: International Civil Aviation Organization  
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  
IATA: International Air Transport Association  
P: Marine Pollutant  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
vPvB: very Persistent and very Bioaccumulative  
ACGIH: American Conference of Governmental Industrial Hygienists (USA)

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OSHA: Occupational Safety and Health Administration (USA)  
NTP: National Toxicology Program (USA)  
IARC: International Agency for Research on Cancer  
EPA: Environmental Protection Agency (USA)

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