

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

Product identifier
Trade name **L-Adrenaline**
Stock number: L04911
CAS Number: 51-43-4
EINECS Number: 200-098-7
Relevant identified uses of the substance or mixture and uses advised against
Sector of Use SU24 Scientific research and development
Details of the supplier of the safety data sheet
Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG
A Johnson Matthey Company
Benzstrasse 3
D-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 department.
Emergency telephone number: Product Safety Department +049 (0) 7275 988687-0 (business hours)
Carechem 24: +44 (0) 1235 239 670 (Multi-language 24 hour emergency)
Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240

2 Hazards identification

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008



GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.
Acute Tox. 2 H310 Fatal in contact with skin.
Acute Tox. 2 H330 Fatal if inhaled.

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



T; Toxic

R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.

Label elements
Labelling according to Regulation (EC) No 1272/2008
Hazard pictograms



The substance is classified and labelled according to the CLP regulation.

GHS06

Signal word
Hazard statements

Danger
H301 Toxic if swallowed.
H310 Fatal in contact with skin.
H330 Fatal if inhaled.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P320 Specific treatment is urgent (see on this label).
P361 Remove/Take off immediately all contaminated clothing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards
Results of PBT and vPvB assessment
PBT:
vPvB:

Not applicable.
Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances (CAS#) Designation: L-Adrenaline (CAS# 51-43-4): 100%
Identification number(s):
EINECS Number: 200-098-7

4 First aid measures

Description of first aid measures
General information

Instantly remove any clothing soiled by the product.
Remove breathing apparatus only after soiled clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation

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

After skin contact

Seek immediate medical advice.
Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.

After swallowing

Rinse opened eye for several minutes under running water. Then consult doctor.
Do not induce vomiting; instantly call for medical help.
Seek immediate medical advice.

5 Firefighting measures

Extinguishing media
Suitable extinguishing agents
Special hazards arising from the substance or mixture

CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

Advice for firefighters
Protective equipment:

Can be released in case of fire:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)

Wear self-contained breathing apparatus.
Wear full protective 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.

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Methods and material for containment and cleaning up:

Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

Reference to other sections**7 Handling and storage****Handling
Precautions for safe handling**

Handle under dry protective gas.
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:

Keep ignition sources away - Do not smoke.

Conditions for safe storage, including any incompatibilities**Storage
Requirements to be met by storerooms and containers:
Information about storage in one common storage facility:**

No special requirements.
Store away from air.
Store in the dark.
Store away from oxidizing agents.

Further information about storage conditions:

Store under dry inert gas.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from the effects of light.
Store in a locked cabinet or with access restricted to technical experts or their assistants.
This product is air sensitive.

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 critical values that require monitoring at the workplace:
Additional information:**

Not required.
No data

**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.
Avoid contact with the eyes and skin.

**Breathing equipment:
Protection of hands:
Material of gloves**

Use breathing protection with high concentrations.
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.

**Penetration time of glove material
Eye protection:
Body protection:**

Impervious gloves
Not determined
Safety glasses
Protective work clothing.

9 Physical and chemical properties**Information on basic physical and chemical properties****General Information****Appearance:**

Form: Powder
Colour: White
Smell: Not determined
Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range: 215°C (dec)
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Flash point: Not applicable

Inflammability (solid, gaseous) Not determined.

Ignition temperature: Not determined

Decomposition temperature: Not determined

Self-inflammability: Not determined.

Danger of explosion: Product is not explosive.

Critical values for explosion:

Lower: Not determined
Upper: Not determined

Steam pressure: Not applicable.

Density Not determined
Relative density Not determined.
Vapour density Not applicable.
Evaporation rate Not applicable.

Segregation coefficient (n-octanol/water): Not determined.

**Viscosity:
dynamic:** Not applicable.

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kinematic: Not applicable.
Other information No further relevant information available.

10 Stability and reactivity

Reactivity
Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
Possibility of hazardous reactions No dangerous reactions known
Incompatible materials: Air
Light
Oxidizing agents
Hazardous decomposition products: Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)

11 Toxicological information

Information on toxicological effects

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

Oral	LDLo	30 mg/kg (rat)
Dermal	LD50	62 mg/kg (rat)

Primary irritant effect:

on the skin: May cause irritation
on the eye: May cause irritation
Sensitization: No sensitizing effect known.

Other information (about experimental toxicology):**Additional toxicological information:**

Reproductive effects have been observed on tests with laboratory animals.
Mutagenic effects have been observed on tests with bacteria.
Mutagenic effects have been observed on tests with insects.
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
Danger by skin resorption.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information

Toxicity
Acquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Behaviour in environmental systems:
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Additional ecological information:
General notes: Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Do not allow material to be released to the environment without proper governmental permits.
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
Recommendation Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information**Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**

ADR/RID-GGVS/E Class: 6.1 (T2) Toxic substances.
Kemler Number: 60
UN-Number: 2811
Packaging group: II
Label 6.1
UN proper shipping name: 2811 TOXIC SOLID, ORGANIC, N.O.S. (L-Adrenaline)
Limited quantities (LQ) LQ18
Tunnel restriction code D/E

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: 6.1
UN Number: 2811
Label 6.1
Packaging group: II
Marine pollutant: No
Correct technical name: TOXIC SOLID, ORGANIC, N.O.S. (L-Adrenaline)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 6.1
UN/ID Number: 2811

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Label	6.1
Packaging group:	II
Correct technical name:	TOXIC SOLID, ORGANIC, N.O.S. (L-Adrenaline)
UN "Model Regulation":	UN2811, TOXIC SOLID, ORGANIC, N.O.S., 6.1, II
Special precautions for user	Warning: Toxic substances.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

15 Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****Labelling according to Regulation (EC) No 1272/2008****Hazard pictograms**

The substance is classified and labelled according to the CLP regulation.



GHS06

Signal word

Danger

Hazard statementsH301 Toxic if swallowed.
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H330 Fatal if inhaled.**Precautionary statements**P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P320 Specific treatment is urgent (see on this label).
P361 Remove/Take off immediately all contaminated clothing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.**National regulations****Information about limitation of use:**Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.**Water hazard class:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.

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 data specification sheet: Health, Safety and Environmental Department.**Contact:** Zachariah C. Holt
Global EHS Manager**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)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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