

**Safety data sheet
according to 1907/2006/EC, Article 31**

Printing date 10.07.2018

Version 5

Revision: 21.03.2017

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



- **1.1 Product identifier**
- **Trade name: Adefin**

- **Article number:** 00115, 00116, 00117, 09115
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture**
Printing and reproduction of recorded media
Photographic activities
Cleaning material/ Detergent
Silver stain remover
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
ADEFO-CHEMIE GmbH
Am Trieb 77
D-63263 Neu Isenburg
Tel. +49 6102 - 884690
Fax + 49 6102 - 8846927
E-Mail: service@adefo-chemie.de
www.adefo-chemie.de
- **Informing department:**
Tel.: +49 6074 84239-0
Fax: +49 6074 84239-63
- **1.4 Emergency telephone number:** Tel.: 0700-24112112 (CAL)

SECTION 2: Hazards identification

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

Eye Dam. 1	H318	Causes serious eye damage.
Carc. 2	H351	Suspected of causing cancer.
Repr. 2	H361d	Suspected of damaging the unborn child.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**


 GHS05 GHS08
- **Signal word** Danger
- **Hazard-determining components of labelling:**
thiourea
- **Hazard statements**
H318 Causes serious eye damage.

(Contd. on page 2)

**Safety data sheet
according to 1907/2006/EC, Article 31**

Printing date 10.07.2018

Version 5

Revision: 21.03.2017

Trade name: Adefin

(Contd. of page 1)

- H351 Suspected of causing cancer.
- H361d Suspected of damaging the unborn child.
- H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

- P273 Avoid release to the environment.
- P280 Wear protective gloves / eye 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.
- P308+P313 If exposed or concerned: Get medical advice/attention.
- P310 Immediately call a POISON CENTER/doctor.
- 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**

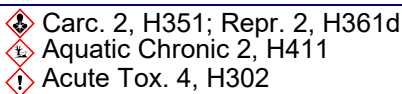

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

- **Description:** Mixture of the substances listed below with harmless additions.

· **Dangerous components:**

CAS: 62-56-6 EINECS: 200-543-5 Index number: 612-082-00-0 Reg.nr.: 01-2119977062-37-xxxx	thiourea		5-<10%
CAS: 77-92-9 EINECS: 201-069-1 Reg.nr.: 01-2119457026-42-xxxx	citric acid		1-2%

- **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information**

- Personal protection for the First Aider.
- Wear protective clothing.
- Instantly remove any clothing soiled by the product.

- **After inhalation** Supply fresh air.

- **After skin contact** Instantly wash with water and soap and rinse thoroughly.

· **After eye contact**

- Rinse opened eye for several minutes under running water (> 15 min). Then consult doctor.

· **After swallowing**

- Rinse out mouth and then drink plenty of water.
- Induce vomiting and call for medical help.

(Contd. on page 3)



Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 10.07.2018

Version 5

Revision: 21.03.2017

Trade name: Adefin

(Contd. of page 2)

- **4.2 Most important symptoms and effects, both acute and delayed**
No known symptoms to date.
- **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**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture**
Can be released in case of fire
Sulphur oxides (SO_x)
Nitrogen oxides (NO_x)
Carbon monoxide
- **5.3 Advice for firefighters**
- **Protective equipment:**
Do not inhale explosion gases or combustion gases.
At formation of toxic gases:
Put on breathing apparatus.
- **Additional information** The product is not flammable

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
- **6.2 Environmental precautions:** Do not allow to enter drainage system, surface or ground water.
- **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 item 13.
- **6.4 Reference to other sections**
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**
Do not handle until all safety precautions have been read and understood.
Store locked up.
- **Information about protection against explosions and fires:**
No special measures required.
The product is not flammable

(Contd. on page 4)

GB

**Safety data sheet
according to 1907/2006/EC, Article 31**

Printing date 10.07.2018

Version 5

Revision: 21.03.2017

Trade name: Adefin

(Contd. of page 3)

- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
Keep container tightly closed in a cool, well-ventilated place.
- **Information about storage in one common storage facility:**
Keep away from foodstuffs, beverages and food.
- **Further information about storage conditions:** Store in a cool place.
- **Recommended storage temperature:** 5-25 °C
- **Storage class**
LGK 12
(German Technical Rule for Hazardous Substance – TRGS 510)
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **8.1 Control parameters**
- **Components with limit values that require monitoring at the workplace:**
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
The usual precautionary measures should be adhered to general rules for handling chemicals.
Keep away from foodstuffs, beverages and food.
Do not eat, drink or smoke while working.
Take off immediately all contaminated clothing.
Wash contaminated clothing before reuse.
Wash hands during breaks and at the end of the work.
- **Breathing equipment:** Not required.
- **Protection of hands:**
Protective gloves.
The protective gloves to be used must comply with the specifications of the EC directive 89/686/EEC and the resultant standard EN 374.
This recommendation applies only to the product stated in the Safety Data Sheet and supplied by us as well as to the purpose specified by us.
Only use chemical-protective gloves with CE-labelling of category III.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**

	Thickness (mm)	Breakthrough time (min)
Nitril rubber	0,38	> 480
Neoprene	0,65	> 240
Butyl rubber	0,36	> 480

Avoid natural rubber gloves.
- **As protection from splashes gloves made of the following materials are suitable:**
Synthetic gloves

(Contd. on page 5)

GB

**Safety data sheet
according to 1907/2006/EC, Article 31**

Printing date 10.07.2018

Version 5

Revision: 21.03.2017

Trade name: Adefin

(Contd. of page 4)

Value for permeation: Level:
≥ 3 (60 min)

- **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:**

· Form:	Fluid
· Colour:	Colourless
· Odour:	Not characteristic

· **pH-value at 20 °C:** 1.8· **Change in condition**

· Melting point/freezing point:	< 5 °C
· Initial boiling point and boiling range:	100 °C

· **Flash point:** Not applicable· **Self-inflammability:** Product is not selfigniting.· **Explosive properties:** Product is not explosive.· **Critical values for explosion:**· **Oxidising properties** None· **Vapour pressure at 20 °C:** 23 hPa· **Density at 20 °C** 1.047 g/cm³· **Solubility in / Miscibility with**· **Water:** miscible· **Viscosity:**

· dynamic:	Not determined
· kinematic:	Not determined

· **Solvent content:**

· Organic solvents:	0.0 %
· Water:	~ 87 %

· **9.2 Other information** No further relevant information available.**SECTION 10: Stability and reactivity**· **10.1 Reactivity** No further relevant information available.· **10.2 Chemical stability**· **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

· **10.3 Possibility of hazardous reactions** No dangerous reactions known

(Contd. on page 6)



Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 10.07.2018

Version 5

Revision: 21.03.2017

Trade name: Adefin

(Contd. of page 5)

- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

LD/LC50 values that are relevant for classification:**62-56-6 thiourea**

Oral	LD50	1750 mg/kg (rat)
Dermal	LD50	2800 mg/kg (rabbit)
Inhalative	LC50/4 h	0.17 mg/l (rat)

77-92-9 citric acid

Oral	LD50	3000 mg/kg (rat)
------	------	------------------

- **Primary irritant effect:**
- **Skin corrosion/irritation**
- **Serious eye damage/irritation**
mild irritant
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
This statement was deduced from the properties of the single components.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Limited evidence of a carcinogenic effect.
May cause harm to the unborn child.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
Suspected of causing cancer.
- **Reproductive toxicity**
Suspected of damaging the unborn child.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information**12.1 Toxicity****Aquatic toxicity:****62-56-6 thiourea**

LC50/48 h	9 mg/l (Daphnia magna)
-----------	------------------------

- **12.2 Persistence and degradability** Not determined
- **12.3 Bioaccumulative potential** Not determined
- **Behaviour in environmental systems:** Not determined

(Contd. on page 7)



**Safety data sheet
according to 1907/2006/EC, Article 31**

Printing date 10.07.2018

Version 5

Revision: 21.03.2017

Trade name: Adefin

(Contd. of page 6)

- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:** No further relevant information available.
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): Water-endangering.
Do not allow product to reach ground water, water bodies or sewage system.
Harmful to aquatic organisms
At present there are no ecotoxicological assessments.
This statement was deduced from the properties of the single components.
- **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**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Must be specially treated under adherence to official regulations.

- **European waste catalogue**

09 01 99	wastes not otherwise specified
----------	--------------------------------

- **Uncleaned packagings:**
- **Recommendation:**
Non contaminated packagings can be used for recycling.
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
Packagings that cannot be cleaned are to be disposed of in the same manner as the product.
EAK-No. 15 01 10
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

- | | |
|--|------|
| · 14.1 UN-Number | |
| · ADR/RID, ADN, IMDG, IATA | Void |
| · 14.2 UN proper shipping name | |
| · ADR/RID | Void |
| · ADN, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es) | |
| · ADR/RID, ADN, IMDG, IATA | |
| · Class | Void |

(Contd. on page 8)

**Safety data sheet
according to 1907/2006/EC, Article 31**

Printing date 10.07.2018

Version 5

Revision: 21.03.2017

Trade name: Adefin

(Contd. of page 7)

· 14.4 Packing group · ADR/RID, IMDG, IATA	Void
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
 - **Directive 2012/18/EU**
 - **Named dangerous substances - ANNEX I** None of the ingredients is listed.
 - **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
 - **National regulations**
 - **Information about limitation of use:**
Employment restrictions concerning pregnant and lactating women must be observed.

Class	Share in %
I	7.6

- **Water hazard class:** Water hazard class 2 (Self-assessment): water-endangering.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
 - H302 Harmful if swallowed.
 - H319 Causes serious eye irritation.
 - H351 Suspected of causing cancer.
 - H361d Suspected of damaging the unborn child.
 - H411 Toxic to aquatic life with long lasting effects.
- **Recommended restriction of use** No public product, only for commercial use
- **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 Organisation
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

(Contd. on page 9)



Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 10.07.2018

Version 5

Revision: 21.03.2017

Trade name: Adefin

(Contd. of page 8)

IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Carc. 2: Carcinogenicity – Category 2
Repr. 2: Reproductive toxicity – Category 2
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· Sources

applicable EEC directives:

- 1907/2006
- 1272/2008

Internal physical tests, MSDS of the ingredients,
Information system on hazardous substances of the German Social Accident Insurance
(GESTIS-database on hazardous substances), <http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp>

- * **Data compared to the previous version altered.**

GB