

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.03.2009

Version 6

Revision: 12.03.2009

1 Identification of substance:

- **Product details:**
- **Trade name: Universal Tank Cleaner part A**
- **Article number:** 00109, 03109, 06109
- **Application of the substance / the preparation**
 Photochemicals
 Tank cleaner
 Reserved for industrial and professional use.
- **Manufacturer/Supplier:**
 ADEFO-CHEMIE GmbH
 Justus-von-Liebig-Str. 24-26
 D-63128 Dietzenbach
 Tel.: +49 6074 84239-0
 Fax: +49 6074 84239-63
 E-Mail: service@adefo-chemie.de
 www.adefo-chemie.de
- **Informing department:**
 Tel.: +49 6074 84239-0
 Fax: +49 6074 84239-63
 Competent person according to 1907/2006/EC, Annex II:
 E-Mail: kr@calbe-chemie.de
- **Emergency information:** Tel.: 0700-24112112 (CAL)

2 Hazards identification

- **Hazard designation:**



Xn Harmful
 N Dangerous for the environment

- **Information pertaining to particular dangers for man and environment**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

- R 22 Harmful if swallowed.
- R 36 Irritating to eyes.
- R 40 Limited evidence of a carcinogenic effect.
- R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R 63 Possible risk of harm to the unborn child.

- **Classification system**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

3 Composition/information on ingredients

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

- **Dangerous components:**

CAS: 5949-29-1	Citric acid monohydrate	Xi; R 36	25-50%
EINECS: 201-069-1			

(Contd. on page 2)



Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.03.2009

Version 6

Revision: 12.03.2009

Trade name: Universal Tank Cleaner part A

(Contd. of page 1)

CAS: 62-56-6
EINECS: 200-543-5

thiourea

Xn, N; R 22-40-51/53-63 25-50%

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

4 First aid measures

- **General information**

Instantly remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation** Supply fresh air; consult doctor in case of symptoms.

- **After skin contact** The product is not skin irritating.

- **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.
Instantly call for doctor.

- **Information for doctor** None

5 Fire fighting measures

- **Suitable extinguishing agents**

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

- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.

- **Special hazards caused by the material, its products of combustion or resulting gases:**

Can be released in case of fire
sulphur dioxide (SO₂)
Nitrogen oxides (NO_x)

- **Protective equipment:** Do not inhale explosion gases or combustion gases.

6 Accidental release measures

- **Person-related safety precautions:**

Avoid causing dust.
Ensure adequate ventilation

- **Measures for environmental protection:**

Inform respective authorities in case product reaches water or sewage system.
Do not allow to enter drainage system, surface or ground water.

- **Measures for cleaning/collecting:**

Dispose of contaminated material as waste according to item 13.

- **Additional information:**

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

GB

(Contd. on page 3)



Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.03.2009

Version 6

Revision: 12.03.2009

Trade name: Universal Tank Cleaner part A

(Contd. of page 2)

7 Handling and storage

- **Handling**
- **Information for safe handling:** Store in cool, dry place in tightly closed containers.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Recommended storage temperature:** 5-30°C

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **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:** The lists that were valid during the compilation were used as basis.
- **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.
Take off immediately all contaminated clothing
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
Do not eat, drink or smoke while working.
- **Breathing equipment:** Not necessary if room is well-ventilated.
- **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
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
Synthetic gloves
Value for permeation: Level:
≥3 (60 min)
- **As protection from splashes gloves made of the following materials are suitable:**
Synthetic gloves
Value for permeation: Level:
≥ 3 (60 min)

(Contd. on page 4)



Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.03.2009

Version 6

Revision: 12.03.2009

Trade name: Universal Tank Cleaner part A

(Contd. of page 3)

- **Not suitable are gloves made of the following materials:** Natural rubber, NR
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

9 Physical and chemical properties:

· General Information

Form:	Solid.
Colour:	Colourless
Odour:	Not characteristic

· Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined

· **Flash point:** Not applicable

· **Ignition temperature:** 345°C

· **Self-inflammability:** Product is not selfigniting.

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

· **Density** Not applicable

· Solubility in / Miscibility with Water:

Soluble

· Viscosity:

dynamic:	Not applicable
kinematic:	Not applicable

· **Solvent content:**

· **Solids content:** 100.0 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Dangerous reactions** Reacts with acids, alkalis and oxidizing agents
- **Dangerous products of decomposition:** None

11 Toxicological information

· Acute toxicity:

· 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)

(Contd. on page 5)



Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.03.2009

Version 6

Revision: 12.03.2009

Trade name: Universal Tank Cleaner part A

(Contd. of page 4)

- **Primary irritant effect:**
 - **on the skin:** No irritant effect.
 - **on the eye:** Irritant effect.
- **Sensitization:** Sensitizing effect by skin contact is possible by prolonged exposure.
- **Additional toxicological information:**

This statement was deduced from the properties of the single components.
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

Harmful
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Limited evidence of a carcinogenic effect.
Possible risk of harm to the unborn child.

12 Ecological information:

- **Information about elimination (persistence and degradability):** Not determined
- **Behaviour in environmental systems:** Not determined
- **Mobility and bioaccumulation potential:** Not determined
- **Ecotoxicological effects:** Not determined
- **Acquatic toxicity:** Not determined
- **Remark:** Toxic for fish
- **Behaviour in sewage processing plants:** Not determined
- **General notes:**

At present there are no ecotoxicological assessments.
The product contains materials that are harmful to the environment.
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
The product does not contain organically bounded halogens (AOX-free).

13 Disposal considerations

- **Product:**
- **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**

16 05 07	discarded inorganic chemicals consisting of or containing dangerous substances
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- **Uncleaned packagings:**
- **Recommendation:**

Non contaminated packagings can be used for recycling.
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

(Contd. on page 6)

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.03.2009

Version 6

Revision: 12.03.2009

Trade name: Universal Tank Cleaner part A

(Contd. of page 5)

- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

14 Transport information

- **Land transport ADR/RID (cross-border)**



- **ADR/RID-GGVS/E Class:** 9 Miscellaneous dangerous substances and articles.
- **Kemler Number:** 90
- **UN-Number:** UN 3077
- **Packaging group:** III
- **Label:** 9
- **Designation of goods:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiourea)
- **Remarks:** "Limited quantity" according to chapter 3.4 ADR

- **Maritime transport IMDG:**



- **IMDG Class:** 9
- **UN Number:** UN 3077
- **Label:** 9
- **Packaging group:** III
- **EMS Number:** F-A,S-F
- **Marine pollutant:** No
- **Correct technical name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiourea)
- **Remarks:** "Limited quantity" according to chapter 3.4 IMDG

- **Air transport ICAO-TI and IATA-DGR:**



- **ICAO/IATA Class:** 9
- **UN/ID Number:** UN 3077
- **Label:** 9
- **Packaging group:** III
- **Correct technical name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiourea)
- **Remarks:** Packing Instruction PAX/CAO 911

15 Regulatory information

- **Designation according to EC guidelines:**
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

(Contd. on page 7)

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.03.2009

Version 6

Revision: 12.03.2009

Trade name: Universal Tank Cleaner part A

(Contd. of page 6)

· **Code letter and hazard designation of product:**



Xn Harmful
N Dangerous for the environment

· **Hazard-determining components of labelling:**

thiourea

· **Risk phrases:**

- 22 Harmful if swallowed.
- 36 Irritating to eyes.
- 40 Limited evidence of a carcinogenic effect.
- 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 63 Possible risk of harm to the unborn child.

· **Safety phrases:**

- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 36/37 Wear suitable protective clothing and gloves.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

· **National regulations**

· **Technical instructions (air):**

Class	Share in %
I	36.5

- **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

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 R-phrases**

- 22 Harmful if swallowed.
- 36 Irritating to eyes.
- 40 Limited evidence of a carcinogenic effect.
- 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 63 Possible risk of harm to the unborn child.

- **Recommended restriction of use** No public product, only for commercial use

· **Sources**

- applicable EEC directives:
- 1999/45/EC last change 2006/8/EC
 - 67/548/EC last change 2004/73/EC (29. ATP)
- Internal physical tests, MSDS of the ingredients

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.03.2009

Version 5

Revision: 12.03.2009

1 Identification of substance:

- **Product details:**
- **Trade name: Universal Tank Cleaner part B**
- **Application of the substance / the preparation** Tank cleaner
- **Manufacturer/Supplier:**
 ADEFO-CHEMIE GmbH
 Justus-von-Liebig-Str. 24-26
 D-63128 Dietzenbach
 Tel.: +49 6074 84239-0
 Fax: +49 6074 84239-63
 E-Mail: service@adefo-chemie.de
www.adefo-chemie.de
- **Informing department:**
 Tel.: +49 6074 84239-0
 Fax: +49 6074 84239-63
 Competent person according to 1907/2006/EC, Annex II:
 E-Mail: kr@calbe-chemie.de
- **Emergency information:** Tel.: 0700-24112112 (CAL)

2 Hazards identification

- **Hazard designation:**



Xn Harmful
O Oxidising

- **Information pertaining to particular dangers for man and environment**

R 8 Contact with combustible material may cause fire.
 R 22 Harmful if swallowed.
 R 36/37/38 Irritating to eyes, respiratory system and skin.
 R 42/43 May cause sensitisation by inhalation and skin contact.

- **Classification system**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

3 Composition/information on ingredients

- **Chemical characterization:**
- **CAS No. Designation:**
7775-27-1 disodium peroxodisulphate
- **Identification number(s):**
- **EINECS Number:** 231-892-1

4 First aid measures

- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **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.

(Contd. on page 2)



Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.03.2009

Version 5

Revision: 12.03.2009

Trade name: Universal Tank Cleaner part B

(Contd. of page 1)

- **After swallowing** Drink copious amounts of water and provide fresh air. Instantly call for doctor.
- **Information for doctor** None

5 Fire fighting measures

- **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.
- **Special hazards caused by the material, its products of combustion or resulting gases:**
Formation of toxic gases is possible during heating or in case of fire.
Sulphur oxides (SO_x)
- **Protective equipment:** Do not inhale explosion gases or combustion gases.

6 Accidental release measures

- **Person-related safety precautions:**
Wear protective clothing.
Avoid causing dust.
- **Measures for environmental protection:**
Do not allow to enter drainage system, surface or ground water.
- **Measures for cleaning/collecting:**
Collect mechanically.
Dispose of contaminated material as waste according to item 13.
- **Additional information:**
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

7 Handling and storage

- **Handling**
- **Information for safe handling:**
Store in cool, dry place in tightly closed containers.
Prevent formation of dust.
- **Information about protection against explosions and fires:**
Substance/product is oxidizing when dry.
- **Storage**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:**
Store away from flammable substances.
- **Further information about storage conditions:** None.
- **Storage class** LGK 5.1B (VCI-Concept)

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:** Not required.

(Contd. on page 3)



Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.03.2009

Version 5

Revision: 12.03.2009

Trade name: Universal Tank Cleaner part B

(Contd. of page 2)

- **Additional information:** The lists that were valid during the compilation were used as basis.
- **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
Avoid close or long term contact with the skin.
- **Breathing equipment:** Not necessary if room is well-ventilated.
- **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**

Nitrile rubber, NBR
Butyl rubber, BR
Recommended thickness of the material: ≥ 0.38 mm
- **Penetration time of glove material**

Value for permeation: Level ≥ 6 (480 min)
The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**

Synthetic gloves
Value for permeation: Level:
 ≥ 3 (60 min)
- **Eye protection:** Safety glasses
- **Body protection:** Light weight protective clothing

9 Physical and chemical properties:

· General Information

Form:	Crystalline powder
Colour:	Colourless
Odour:	Odourless

· Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined

Flash point:	Not applicable
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Inflammability (solid, gaseous)	Product is not inflammable.
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(Contd. on page 4)

GB



Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.03.2009

Version 5

Revision: 12.03.2009

Trade name: Universal Tank Cleaner part B

(Contd. of page 3)

- | | |
|--------------------------------------------------|---------------------------|
| · Ignition temperature: | |
| · Decomposition temperature: | > 180°C |
| · Danger of explosion: | Product is not explosive. |
| · Critical values for explosion: | |
| Oxidizing properties | Yes |
| · Density at 20°C | 2.59 g/cm ³ |
| · Solubility in / Miscibility with Water: | Soluble |
| · pH-value (560 g/l) at 25°C: | 2.6 |

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Dangerous reactions** Toxic fumes may be released if heated above the decomposition point
- **Dangerous products of decomposition:** None

11 Toxicological information

- **Acute toxicity:**

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

7775-27-1 disodium peroxodisulphate

Oral | LD50 | 1000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritant effect.
- **Sensitization:**
Sensitization possible by inhalation.
Sensitization possible by skin contact.
- **Sensitisation** May cause sensitisation by inhalation and skin contact.

12 Ecological information:

- **Information about elimination (persistence and degradability):** Not determined
- **Behaviour in environmental systems:** Not determined
- **Mobility and bioaccumulation potential:** Not determined
- **Ecotoxicological effects:** Not determined
- **Acquatic toxicity:** Not determined
- **Behaviour in sewage processing plants:** Not determined

(Contd. on page 5)

GB

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.03.2009

Version 5

Revision: 12.03.2009

Trade name: Universal Tank Cleaner part B

(Contd. of page 4)

- **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water.

13 Disposal considerations

- **Product:**
- **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**

16 05 07	discarded inorganic chemicals consisting of or containing dangerous substances
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- **Uncleaned packagings:**
- **Recommendation:**
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.

14 Transport information

- **Land transport ADR/RID (cross-border)**



- **ADR/RID-GGVS/E Class:** 5.1 Oxidising substances.
- **Kemler Number:** 50
- **UN-Number:** UN 1505
- **Packaging group:** III
- **Label** 5.1
- **Designation of goods:** SODIUM PERSULPHATE
- **Remarks:** "Limited quantity" according to chapter 3.4 ADR

- **Maritime transport IMDG:**



- **IMDG Class:** 5.1
- **UN Number:** UN 1505
- **Label** 5.1
- **Packaging group:** III
- **EMS Number:** F-A,S-Q
- **Marine pollutant:** No
- **Correct technical name:** SODIUM PERSULPHATE

(Contd. on page 6)

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.03.2009

Version 5

Revision: 12.03.2009

Trade name: Universal Tank Cleaner part B

(Contd. of page 5)

· **Remarks:** "Limited quantity" according to chapter 3.4 IMDG

· **Air transport ICAO-TI and IATA-DGR:**



- **ICAO/IATA Class:** 5.1
- **UN/ID Number:** UN 1505
- **Label** 5.1
- **Packaging group:** III
- **Correct technical name:** SODIUM PERSULPHATE

15 Regulatory information

· **Designation according to EC guidelines:**

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

· **Code letter and hazard designation of product:**



Xn Harmful
O Oxidising

· **Risk phrases:**

- 8 Contact with combustible material may cause fire.
- 22 Harmful if swallowed.
- 36/37/38 Irritating to eyes, respiratory system and skin.
- 42/43 May cause sensitisation by inhalation and skin contact.

· **Safety phrases:**

- 22 Do not breathe dust.
- 24 Avoid contact with skin.
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 37 Wear suitable gloves.
- 43 In case of fire, use water.

· **National regulations**

· **Water hazard class:** Water hazard class 1 (Assessment by list): slightly hazardous for water.

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.

· **Recommended restriction of use** No public product, only for commercial use

· **Sources**

- applicable EEC directives:
 - 1999/45/EC last change 2006/8/EC
 - 67/548/EC last change 2004/73/EC (29. ATP)
- Internal physical tests, MSDS of the ingredients

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