sigma-aldrich.com

# SAFETY DATA SHEET

Version 4.12 Revision Date 03/04/2015 Print Date 06/24/2015

# **1. PRODUCT AND COMPANY IDENTIFICATION**

| 1.1 | Product identifiers<br>Product name   | :   | Anthracene   |
|-----|---|-----|--|
|     | Product Number<br>Brand   | :   | 31581<br>Fluka   |
|     | CAS-No.   | :   | 120-12-7   |
| 1.2 | 2 Relevant identified uses of the substance or mixture and uses advised again |     |  |
|     | Identified uses   | :   | Laboratory chemicals, Manufacture of substances                    |
| 1.3 | Details of the supplier of  | the | safety data sheet  |
|     | Company   | :   | Sigma-Aldrich<br>3050 Spruce Street<br>SAINT LOUIS MO 63103<br>USA |
|     | Telephone<br>Fax  | :   | +1 800-325-5832<br>+1 800-325-5052                                 |

#### 1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

# 2. HAZARDS IDENTIFICATION

# 2.1 Classification of the substance or mixture

## GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin irritation (Category 2), H315 Eye irritation (Category 2A), H319 Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335 Acute aquatic toxicity (Category 1), H400 Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

# 2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word



Warning

| Hazard statement(s)<br>H315<br>H319<br>H335<br>H410                | Causes skin irritation.<br>Causes serious eye irritation.<br>May cause respiratory irritation.<br>Very toxic to aquatic life with long lasting effects.   |
|--|---|
| Precautionary statement(s)<br>P261<br>P264<br>P271<br>P273<br>P280 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.<br>Wash skin thoroughly after handling.<br>Use only outdoors or in a well-ventilated area.<br>Avoid release to the environment.<br>Wear eye protection/ face protection. |

| P280<br>P302 + P352<br>P304 + P340 + P312 | Wear protective gloves.<br>IF ON SKIN: Wash with plenty of soap and water.<br>IF INHALED: Remove person to fresh air and keep comfortable for<br>breathing. Call a POISON CENTER or doctor/ physician if you feel<br>unwell. |
|---|--|
| P305 + P351 + P338                        | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.   |
| P332 + P313                               | If skin irritation occurs: Get medical advice/ attention.  |
| P337 + P313                               | If eye irritation persists: Get medical advice/ attention.   |
| P362                                      | Take off contaminated clothing and wash before reuse.  |
| P391                                      | Collect spillage.  |
| P403 + P233                               | Store in a well-ventilated place. Keep container tightly closed.   |
| P405                                      | Store locked up.   |
| P501                                      | Dispose of contents/ container to an approved waste disposal plant.  |

# **2.3 Hazards not otherwise classified (HNOC) or not covered by GHS** Photosensitizer., Lachrymator.

# **3. COMPOSITION/INFORMATION ON INGREDIENTS**

# 3.1 Substances

| Formula          | : C  | 14 <sup>H</sup> 10 |
|------------------|------|--------------------|
| Molecular weight | : 17 | 78.23 g/mol        |
| CAS-No.          | : 12 | 20-12-7            |
| EC-No.           | : 20 | )4-371-1           |

# Hazardous components

| Component  | Classification   | Concentration |
|--|--|---------------|
| Anthracene Included in the Candidate List of Substa<br>Regulation (EC) No. 1907/2006 (REACH) | ances of Very High Concern (SVHC)  | according to  |
|  | Skin Irrit. 2; Eye Irrit. 2A;<br>STOT SE 3; Aquatic Acute 1;<br>Aquatic Chronic 1; H315,<br>H319, H335, H410 | <= 100 %      |

4. FIRST AID MEASURES

# 4.1 Description of first aid measures

# **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

# If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

# In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

# In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

# If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

# 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

# **4.3 Indication of any immediate medical attention and special treatment needed** No data available

# **5. FIREFIGHTING MEASURES**

# 5.1 Extinguishing media

# Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture Carbon oxides

# **5.3** Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information No data available

# 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

#### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

#### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

# 6.4 Reference to other sections

For disposal see section 13.

# 7. HANDLING AND STORAGE

# 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

# 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Storage class (TRGS 510): Non Combustible Solids

# 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

# 8.1 Control parameters

# Components with workplace control parameters

| Component  | CAS-No.  | Value  | Control    | Basis                             |
|------------|----------|--|------------|-----------------------------------|
|            |          |  | parameters |                                   |
| Anthracene | 120-12-7 | TWA  | 0.200000   | USA. Occupational Exposure Limits |
|            |          |  | mg/m3      | (OSHA) - Table Z-1 Limits for Air |
|            |          |  | -          | Contaminants                      |
|            | Remarks  | 1910.1002<br>As used in §1910.1000 (Table Z-1), coal tar pitch volatiles include<br>the fused polycyclic hydrocarbons which volatilize from the<br>distillation residues of coal, petroleum (excluding asphalt), wood,<br>and other organic matter. Asphalt (CAS 8052-42-4, and CAS<br>64742-93-4) is not covered under the 'coal tar pitch volatiles' |            |                                   |
|            |          |  |            |                                   |
|            |          |  |            |                                   |
|            |          |  |            |                                   |
|            |          |  |            |                                   |
|            |          |  |            |                                   |

| standard<br>OSHA specifically regulated carcinogen |                      |  |  |
|--|----------------------|--|--|
| TWA 0.100000 USA. NIOSH Re                         |                      | USA. NIOSH Recommended                 |  |
| mg/m3 Exposure Limits                              |                      |  |  |
| NIOSH cons<br>products.                            | -extractable fractio | tar pitch, and creosote to be coal tar |  |

# **Biological occupational exposure limits**

| Component  | CAS-No.  | Parameters                      | Value | Biological specimen | Basis   |
|------------|----------|---------------------------------|-------|---------------------|---|
| Anthracene | 120-12-7 | 1-<br>Hydroxypyren<br>e (1-HP)  |       | Urine               | ACGIH - Biological<br>Exposure Indices<br>(BEI) |
|            | Remarks  | End of shift at end of workweek |       |                     |   |

#### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

#### **Eye/face protection**

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact Material: Chloroprene Minimum layer thickness: 0.6 mm Break through time: 480 min Material tested:Camapren® (KCL 722 / Aldrich Z677493, Size M)

Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 30 min Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### **Body Protection**

impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

# Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

# 9.1 Information on basic physical and chemical properties

|    |  | • •   |
|----|--|---|
| a) | Appearance   | Form: crystalline<br>Colour: beige                      |
| b) | Odour  | No data available                                       |
| c) | Odour Threshold                                    | No data available                                       |
| d) | рН   | No data available                                       |
| e) | Melting point/freezing point                       | Melting point/range: 210 - 215 °C (410 - 419 °F) - lit. |
| f) | Initial boiling point and boiling range            | 340 °C (644 °F) - lit.                                  |
| g) | Flash point  | 121.0 °C (249.8 °F) - closed cup                        |
| h) | Evaporation rate                                   | No data available                                       |
| i) | Flammability (solid, gas)                          | No data available                                       |
| j) | Upper/lower<br>flammability or<br>explosive limits | Lower explosion limit: 0.6 %(V)                         |
| k) | Vapour pressure                                    | 1.3 hPa (1.0 mmHg) at 145.0 °C (293.0 °F)               |
| I) | Vapour density                                     | No data available                                       |
| m) | Relative density                                   | No data available                                       |
| n) | Water solubility                                   | No data available                                       |
| 0) | Partition coefficient: n-<br>octanol/water         | log Pow: 4.45   |
| p) | Auto-ignition<br>temperature                       | 540.0 °C (1,004.0 °F)                                   |
| q) | Decomposition<br>temperature                       | No data available                                       |
| r) | Viscosity  | No data available                                       |
| s) | Explosive properties                               | No data available                                       |
| t) | Oxidizing properties                               | No data available                                       |
|    | <b>her safety information</b><br>data available    |   |

# **10. STABILITY AND REACTIVITY**

| 10.1 | <b>Reactivity</b><br>No data available                             |
|------|--|
| 10.2 | Chemical stability<br>Stable under recommended storage conditions. |
| 10.3 | Possibility of hazardous reactions<br>No data available            |
| 10.4 | Conditions to avoid  |

- No data available
- **10.5** Incompatible materials Strong oxidizing agents, Hypochlorites

Fluka **-** 31581

9.2

Other decomposition products - No data available In the event of fire: see section 5

# **11. TOXICOLOGICAL INFORMATION**

#### 11.1 Information on toxicological effects

#### Acute toxicity

Inhalation: No data available

Dermal: No data available

LD50 Intraperitoneal - Mouse - 430 mg/kg

#### Skin corrosion/irritation

Skin - Mouse Result: Mild skin irritation

#### Serious eye damage/eye irritation

Irritating to eyes. The preceding data, or interpretation of data, was determined using Quantitative Structure Activity Relationship (QSAR) modeling.

#### Respiratory or skin sensitisation

Causes photosensitivity. Exposure to light can result in allergic reactions resulting in dermatologic lesions, which can vary from sunburnlike responses to edematous, vesiculated lesions, or bullae

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

| IARC: | 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Anthracene) |  |
|-------|--|--|
|       |  |  |

- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: OSHA specifically regulated carcinogen (Anthracene)

#### **Reproductive toxicity**

No data available

#### Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

The preceding data, or interpretation of data, was determined using Quantitative Structure Activity Relationship (QSAR) modeling.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard No data available

#### Additional Information RTECS: CA9350000

Possible tumor promoter., Headache, Nausea, Weakness

Blood -

# **12. ECOLOGICAL INFORMATION**

# 12.1 Toxicity

Toxicity to fish LC50 - Lepomis macrochirus (Bluegill) - 0.001 mg/l - 96.0 h

Toxicity to daphnia and EC50 - Daphnia magna (Water flea) - 0.10 mg/l - 48 h other aquatic

invertebrates

#### **12.2 Persistence and degradability** No data available

# 12.3 Bioaccumulative potential

Indication of bioaccumulation.

Pimephales promelas (fathead minnow) - 42 d - 0.01191 mg/l

Bioconcentration factor (BCF): 649

# 12.4 Mobility in soil

No data available

# 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

#### 12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

No data available

# **13. DISPOSAL CONSIDERATIONS**

#### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

#### **Contaminated packaging**

Dispose of as unused product.

# **14. TRANSPORT INFORMATION**

# DOT (US)

UN number: 3077 Class: 9 Packing group: III Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Anthracene) Reportable Quantity (RQ): 5000 lbs

Poison Inhalation Hazard: No

# IMDG

UN number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Anthracene) Marine pollutant:yes IATA UN number: 3077 Class: 9 Packing group: III Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Anthracene)

# **Further information**

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

# **15. REGULATORY INFORMATION**

# SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

# SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

|            | CAS-No.  | Revision Date |
|------------|----------|---------------|
| Anthracene | 120-12-7 | 2007-07-01    |
|            |          |               |

# Massachusetts Right To Know Components

|  | CAS-No.  | Revision Date |
|--|----------|---------------|
| Anthracene   | 120-12-7 | 2007-07-01    |
| Pennsylvania Right To Know Components                  |          |               |
|  | CAS-No.  | Revision Date |
| Anthracene   | 120-12-7 | 2007-07-01    |
| New Jersey Right To Know Components                    |          |               |
|  | CAS-No.  | Revision Date |
| Anthracene   | 120-12-7 | 2007-07-01    |
| California Prop. 65 Components                         |          |               |
| WARNING! This product contains a chemical known to the | CAS-No.  | Revision Date |
| State of California to cause cancer.                   | 120-12-7 | 2007-09-28    |
| Anthracene   |          |               |
|  |          |               |

# **16. OTHER INFORMATION**

#### Full text of H-Statements referred to under sections 2 and 3.

| Aquatic Acute   | Acute aquatic toxicity                                |
|-----------------|---|
| Aquatic Chronic | Chronic aquatic toxicity                              |
| Eye Irrit.      | Eye irritation  |
| H315            | Causes skin irritation.                               |
| H319            | Causes serious eye irritation.                        |
| H335            | May cause respiratory irritation.                     |
| H400            | Very toxic to aquatic life.                           |
| H410            | Very toxic to aquatic life with long lasting effects. |

0

# **HMIS Rating**

| Health hazard:         | 2 |
|------------------------|---|
| Chronic Health Hazard: | * |
| Flammability:          | 1 |
| Physical Hazard        | 0 |
| NFPA Rating            |   |
| Health hazard:         | 2 |
| Fire Hazard:           | 1 |

Reactivity Hazard:

# Further information

Copyright 2015 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

# **Preparation Information**

Sigma-Aldrich Corporation Product Safety – Americas Region 1-800-521-8956

Version: 4.12

Revision Date: 03/04/2015

Print Date: 06/24/2015