

Material Safety Data Sheet

According to regulation (EC) No. 1907/2006 (REACH)



94200 Aniline

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Revised edition: 26.06.2014

Version: 14

Printed: 06.04.2016

1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product Identifier

Product Name: Aniline

Article No.: 94200

1.2. Relevant identified Uses of the Substance or Mixture and Uses advised against

Identified uses:
Synthesis chemical

Uses advised against:

1.3. Details of the Supplier of the Safety Data Sheet (Producer/Importer)

Company: Kremer Pigmente GmbH & Co. KG

Address: Hauptstr. 41-47, 88317 Aichstetten, Germany

Tel./Fax.: Tel +49 7565 914480, Fax +49 7565 1606

Internet: www.kremer-pigmente.de

E-Mail: info@kremer-pigmente.de

Importer: --

1.4. Emergency No.

Emergency No.: +49 7565 914480 (Mon-Fri 8:00 - 17:00)

2. Hazards Identification

2.1. Classification of the Substance or Mixture

Classification according to EC Regulation 1272/2008

Carcinogenity, hazard category 2
Germ cell mutagenity, hazard category 2
Acute toxicity (inhalation), hazard category 3
Acute toxicity (dermal), hazard category 3
Acute toxicity (oral), hazard category 3
Specific target organ toxicity (repeated exposure), category 1
Serious eye damage, hazard category 1
Skin sensitization, hazard category 1
Acute aquatic toxicity, category 1

H301 Toxic if swallowed.

Cat.: 3

H311 Toxic in contact with skin.

Cat.:

H317 May cause an allergic skin reaction.

Cat.: 1

H318 Causes serious eye damage.

Cat.: 1

H331 Toxic if inhaled.

Cat.:

H341 Suspected of causing genetic defects.

Cat.: 2

H351 Suspected of causing cancer.

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	Cat.:	
	H372	Causes damage to organs through prolonged or repeated exposure.
	Cat.: 1	
	H400	Very toxic to aquatic life.
	Cat.: 1	
<i>Classification according to EC Regulation No. 67/548 or No. 1999/45</i>		
	R23	Toxic by inhalation.
Toxic	R24	Toxic in contact with skin.
	R25	Toxic if swallowed.
	R40	Limited evidence of a carcinogenic effect.
Irritating (Xi)	R41	Risk of serious damage to eyes.
Irritating (Xi)	R43	May cause sensitization by skin contact.
	R48	Danger of serious damage to health by prolonged exposure.
Hazardous to the environment (N)	R50	Very toxic to aquatic organisms.
Mut. Cat. 3	R68	Possible risks of irreversible effects.

Safety Phrases:

Possible Environmental Effects:

2.2. Label Elements

Classification according to EC Regulation 1272/2008

Hazard designation:



GHS05-2



GHS06



GHS08



GHS09

Signal word:

Danger

Hazard designation:

H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
	Suspected of causing genetic defects.

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H341

H351

Suspected of causing cancer.

H372

Causes damage to organs through prolonged or repeated exposure.

H400

Very toxic to aquatic life.

Safety designation:

P273

Avoid release to the environment.

P280

Wear protective gloves/ clothing/ eye/ face protection.

P302+P352

If on skin: Wash with soap and water.

P304+P340

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses and continue rinsing.

P308+P310

If exposed or you feel unwell: Immediately call a poison center or physician.

Hazardous components for labelling:

2.3. Other Hazards

3. Composition/Information on Ingredients

3.1. Substance

3.2. Mixture

Chemical Characterization: C₆H₅NH₂

Hazardous Ingredients:

Aniline (T,N; R23/24/25-40-41-43-48/23/24/25-68-50; H301-311-317-318-331-341-351-372-400);
REACH Reg.No. 01-2119451454-41-xxxx

CAS-Nr: 62-53-3
EINECS-Nr: 200-539-3
EC-Nr: 612-008-00-7

Additional information:

4. First Aid Measures

4.1. Description of the First Aid Measures

General information:

First aiders have to protect themselves.

After inhalation:

Supply fresh air or give oxygen.

Consult physician immediately.

If breathing ceases, apply artificial respiration or oxygen.

After skin contact:

Remove contaminated clothing immediately.

Wash off with plenty of water.

Consult a physician immediately.

After eye contact:

Immediately flush open eyes with plenty of water.

Consult a physician immediately.

After ingestion:

Drink 1 - 2 glasses of water. Seek medical attention immediately.

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Induce vomiting only if medical help is not possible within one hour (only if the affected person is not unconscious).

Give active coal (20-40 g in 10% suspension) and immediately consult physician.

4.2. Most important Symptoms and Effects, both Acute and Delayed

Symptoms:

Irritation and caustic effect, allergic reactions, nausea, vomiting.

Eye contact: risk of serious eye damage.

The following applies to aromatic amines in general: systemic effect: methaemoglobinaemia with headache, cardiac dysrhythmia, drop in blood pressure, dyspnoea and spasms. Principal symptom: cyanosis (blue discoloration of the blood).

Effects:

4.3. Indication of any Immediate Medical Attention and special Treatment needed

Treatment:

Laxans: sodium sulfate (1 spoon / 250 ml H₂O).

5. Fire-Fighting Measures

5.1. Extinguishing Media

Suitable extinguishing media:

Foam, carbon dioxide (CO₂), extinguishing powder, water.

Unsuitable extinguishing media:

5.2. Special Hazards arising from the Substance or Mixture

Special hazards:

Combustible.

Vapor is heavier than air and spreads along the ground.

When strongly heated an explosive mixture with air can be formed.

Formation of hazardous combustion gases or vapors possible in the event of fire.

In case of fire: formation of nitrous gases, nitrogen oxides.

5.3. Advice for Firefighters

Protective equipment:

Wear suitable protective clothing.

Wear self-contained respiratory protective device.

Further information:

Reduce escaping gases/fumes/mist with water spray.

Avoid contamination of sewage system, open water ways and ground water.

6. Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Personal precautions:

Do not inhale aerosol/fumes/vapors.

Avoid contact with skin.

Ensure adequate ventilation.

Evacuate the danger area, observe emergency procedures,

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consult an expert.

6.2. Environmental Precautions

Environmental precautions:

Prevent contamination of soils, drains and surface water.

6.3. Methods and Material for Containment and Cleaning Up

Methods and material:

Contain carefully with absorbent material (e.g. Chemizorb®) and dispose accordingly. Clean remains.

6.4. Reference to other Sections

7. Handling and Storage

7.1. Precautions for Safe Handling

Instructions on safe handling:

Work under an extractor hood.

Do not swallow or inhale.

Avoid formation of vapors/aerosols.

Hygienic measures:

Change contaminated clothing. Preventive skin protection recommended. Wash hands after work.

7.2. Conditions for Safe Storage, including any Incompatibilities

Storage conditions:

Store in tightly sealed containers in a cool and well ventilated location.

Keep product shut away or kept in a manner so as to ensure that only qualified persons may have access.

Protect from direct exposure to light.

Requirements for storage areas and containers:

Unsuitable container material: metals.

Information on fire and explosion protection:

Storage class (VCI):

6.1 A; Combustible toxic products

Further Information:

7.3. Specific End Use(s)

Further information:

8. Exposure Controls/Personal Protection

8.1. Parameters to be Controlled

Parameters to be controlled (DE):

TRGS 900

Aniline (CAS 62-53-3): AGW: 2 ppm / 7.7 mg/m³; Skin absorptive, Cat. II

BAT (DE): 100 µg/l (blood)

BAT (DE): 1 mg/l (urine)

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Parameters to be controlled:

Derived No-Effect Level (DNEL):

7.7 mg/m³ (worker, inhalation, long-term exposition - systemic)
15.4 mg/m³ (worker, inhalation, short-term exposition - systemic)
2 mg/kg bw (worker, skin contact, long-term exposition - systemic)
4 mg/kg bw (worker, skin contact, short-term exposition - systemic)

Predicted No-Effect Concentration (PNEC):

Fresh water: 0.0012 mg/l
Sea water: 0.00012 mg/l
Fresh water sediment / Sea water sediment: 0.153 mg/kg
Sewage treatment system (STP): 2 mg/l
Soil: 0.033 mg/kg

Additional Information:

8.2. Exposure Controls

Technical protective measures:

Use local exhaust ventilation in case of dust and/or fume formation.

Personal Protection

General protective measures:

Keep away from foodstuffs and drinks. Do not eat, drink or smoke during work. Wash hands before breaks and at the end of work.
Do not inhale vapor/dust.
Remove contaminated clothing immediately.

Respiratory protection:

In case of formation of dust/vapor.
Recommended: composite filter A-P3 (EN 141)

Hand protection:

Protective gloves (EN 374)

Protective glove material:

For long-term exposure: butyl rubber (BTT > 480 min; 0.7 mm).
For short-term exposure:
Natural rubber (> 60 min, 0.6 mm)

Eye protection:

Tightly fitting safety goggles (EN 166).

Body protection:

Protective clothing.

Environmental precautions:

Do not allow entering sewerage system.

9. Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

Form: liquid

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<i>Color:</i>	<i>bright brown</i>
<i>Odor:</i>	<i>amine-like</i>
<i>Odor threshold:</i>	<i>No information available.</i>
<i>pH-Value:</i>	<i>8.8 (36 g/l; 20°C)</i>
<i>Melting temperature:</i>	<i>-6.2°C</i>
<i>Boiling temperature:</i>	<i>184°C (1.013 hPa)</i>
<i>Flash point:</i>	<i>76°C</i>
<i>Evaporation rate:</i>	<i>No information available.</i>
<i>Flammability (solid, gas):</i>	<i>not available</i>
<i>Upper explosion limit:</i>	<i>11 Vol. %</i>
<i>Lower explosion limit:</i>	<i>1.2 Vol. %</i>
<i>Vapor pressure:</i>	<i>0.5 hPa (20°C)</i>
<i>Vapor density:</i>	<i>3.22</i>
<i>Density:</i>	<i>1.02 g/cm³ (20°C)</i>
<i>Solubility in water:</i>	<i>36 g/l (20°C)</i>
<i>Coefficient of variation (n-Octanol/Water):</i>	<i>0.90 logPOW</i>
<i>Auto-ignition temperature:</i>	<i>540°C (DIN 51794)</i>
<i>Decomposition temperature:</i>	<i>ca. 190°C</i>
<i>Viscosity, dynamic:</i>	<i>4.4 mPa.s (20°C)</i>
<i>Explosive properties:</i>	<i>Product is not explosive.</i>
<i>Oxidizing properties:</i>	<i>none</i>

Bulk density:

9.2. Further Information

Solubility in solvents:

Viscosity, kinematic

Burning class:

Solvent content:

Solid content:

Particle size:

Other information:

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10. Stability and Reactivity

10.1. Reactivity

An explosive dust/air mixture can be formed when strongly heated. Heating. The critical temperature is considered to be about 15 Kelvin below the flash point.

10.2. Chemical Stability

Sensitive to light.

10.3. Possibility of Hazardous Reactions

Risk of explosion with oxidizing agents, peroxide compounds, perchlorates, perchloric acid, nitric acid, oxygen, organic nitro compounds, benzol/benzene derivatives, nitrates.

Exothermic reaction with: semimetal halogenides, acetic anhydride, acids.

Ignition hazard and formation of inflammable gases or vapors with: fluorine, alkaline earth metals, alkali metals.

10.4. Conditions to Avoid

Conditions to avoid:

Protect from light.

Avoid overheating.

Thermal decomposition:

10.5. Incompatible Materials

No information available.

10.6. Hazardous Decomposition Products

In the event of fire: see chapter 5.

10.7. Further Information

11. Toxicological Information

11. 1. Information on Toxicological Effects

Acute Toxicity

LD50, oral:

871 mg/kg (rat)

Symptoms: mucous membrane irritation, risk of aspiration. Acute lung failure as a result of the aspiration of stomach contents.

LD50, dermal:

840 mg/kg (rabbit)

LC50, inhalation:

3.3 mg/l (4h; rat)

Symptoms: mucosal irritations

Primary effects

Irritant effect on skin:

Non irritating (rabbit)

Irritant effect on eyes:

Irritating effect (rabbit).

Causes severe eye damage.

Inhalation:

No information available.

Ingestion:

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No information available

Sensitization:

May cause allergic skin reactions.

Mutagenicity:

*In vitro genetic-toxicity: Ames-Test negative
Can probably cause genetic defects.*

Reproductive toxicity:

No information available.

Cancerogenity:

Can probably cause cancer.

Teratogenicity:

No information available.

Specific target organ toxicity (STOT):

*Single exposure: no information available.
Repeated exposure: can damage the organs after repeated or
prolonged exposure..*

Additional toxicological information:

*Absorption: nausea and vomiting.
General effects of aromatic amines: methemoglobinemia with
headache, heart arrhythmia, blood pressure decrease,
breathlessness and cramps. Mayor symptom: cyanosis.
Potentiating effect by ethanol.
This substance should be handled with particular care.*

12. Ecological Information

12.1. Aquatic Toxicity

Fish toxicity:

LC50: 36.2 mg/l (96h, Oncorhynchus mykiss)

Daphnia toxicity:

EC50: 0.17 mg/l (48h, Daphnia magna)

Bacteria toxicity:

EC50: 2500 mg/l (10 min, active sludge)

Algae toxicity:

EC50: 68 mg/l (48h, Desmodesmus subspicatus)

12.2. Persistency and Degradability

93 % (28d); readily biodegradable (Method: OECD 301E)

12.3. Bioaccumulation

*Bioaccumulation is not to be expected.
logPow: 0.90*

12.4. Mobility

No information available.

12.5. Results of PBT- und vPvP Assessment

*This product is neither a PBT or vPvB substance nor does it
contain a PBT or vPvB substance.*

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12. 6. Other Adverse Effects

Water hazard class:

Do not let product contaminate ground water, waterways or sewage system.

Behaviour in sewage systems:

Further ecological effects:

Hazardous for potable water.

AOX Value:

13. Disposal Considerations

13. 1. Waste Treatment Methods

Product:

*Dispose of according to official national and local regulations.
Leave chemical in original containers. Do not mix with other waste.*

European Waste Code (EWC):

Uncleaned packaging:

Dispose of according to official local regulations.

Waste Code No.:

14. Transport Information

14. 1. UN Number

ADR, IMDG, IATA 1547

14. 2. UN Proper Shipping Name

ADR/RID: ANILIN

IMDG/IATA: ANILINE

14. 3. Transport Hazard Classes

ADR Class: 6.1

Hazard no.: 6.1

Classification code: T1

Tunnel no.: D/E

IMDG Class (sea): 6.1

Hazard no.: 6.1

EmS No.: F-A, S-A

IATA Class: 6.1

Hazard no.: 6.1

14. 4. Packaging Group

ADR/RID: II

IMDG: II

IATA: II

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14.5. Environmental Hazards

Labelling according 5.2.1.8 ADR/RID: fish and tree
Labelling according 5.2.1.6.3 IMDG: fish and tree
Classification as environmentally hazardous according 2.9.3
IMDG: yes
Labelled with "P" according 2.10 IMDG: yes

14.6. Special Precautions for User

14.7. Transportation in Bulk according to Annex II of MARPOL 73/78 and IBC-Code
not evaluated

14.8. Further Information

15. Regulatory Information

15.1. Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

Water hazard class:

2, hazardous for water

Local regulations on chemical accidents:

Toxic (2); Amount 1: 50 t; Amount 2: 200 t

Environmentally hazardous (9a); Amount 1: 100 t; Amount 2: 200 t

Employment restrictions:

The employment restrictions for young workers in accordance with the Youth Employment Protection Law (94/33/EC) are to be observed.

The employment restrictions for expectant and nursing mothers in accordance with the Maternity Protection Guideline (94/85/EEC) are to be observed.

Restriction and prohibition of application:

Technical instructions on air quality:

15.2. Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this product.

EC SVHC-List: This product does not contain a substance in the candidate list for substances of very high concern above the legal limit value (> 0.1 % (w/w) REACH Regulation (EC) 1907/2006, Article 57).

15.3. Further Information

Regulation (EC) 1005/2009 - Substances that Deplete the Ozone Layer: not regulated / not applicable

Regulation (EC) 850/2004 - Persistent organic pollutants and amending Directive 79/117/EEC: not regulated / not applicable

Regulation (EC) 689/2008 concerning the export and import of dangerous chemicals: not regulated / not applicable

16. Other Information

This product should be stored, handled and used in accordance with good hygiene practices and in conformity with any legal regulations. This information contained herein is based on the present state of knowledge and is intended to describe our product from the point of view of safety requirements. It should be therefore not be construed as guaranteeing specific properties.