

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 14-Aug-2015

Print date: 18-Aug-2015



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CURTIS AR W

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

1.1. Product identifier

Trade name/designation:

CURTIS AR W

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture:

Additive / Inhibitor

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

Curtis Systems GmbH

Geheimrat-Hummel-Platz Nr. 4

65239 Hochheim

Germany

Telephone: 0614690738-0

Telefax: 061469073845

E-mail: info@curtis-systems.de

E-mail (competent person): weimer@curtis-systems.de

1.4. Emergency telephone number

Technical department: , 06146-90738-33 (Only available during office hours.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
Corrosive to metals (<i>Met. Corr. 1</i>)	H290: May be corrosive to metals.	
Acute toxicity (oral) (<i>Acute Tox. 4</i>)	H302: Harmful if swallowed.	
Acute toxicity (dermal) (<i>Acute Tox. 4</i>)	H312: Harmful in contact with skin.	
Skin corrosion/irritation (<i>Skin Corr. 1B</i>)	H314: Causes severe skin burns and eye damage.	
Acute toxicity (inhalative) (<i>Acute Tox. 4</i>)	H332: Harmful if inhaled.	
STOT-single exposure (<i>STOT SE 3</i>)	H335: May cause respiratory irritation.	

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:



GHS05
Corrosion



GHS07
Exclamation mark

Signal word: Danger

Hazard components for labelling:

2-aminoethanol

hazard statements for health hazards	
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Supplemental Hazard information (EU): -

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Precautionary statements Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements Response

P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

No data available

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Description:

Mixture of substances listed below.

Additional information:

Substance with a common (EC) occupational exposure limit value. See section 8.

Hazardous ingredients / Hazardous impurities / Stabilisers:

product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 141-43-5 EC No.: 205-483-3 REACH No.: 01-2119486455-28-0000	2-aminoethanol Skin Corr. 1A, Eye Dam. 1, STOT SE 3, Met. Corr. 1, Acute Tox. 4 Danger H290-H302-H312-H314-H318-H332-H335	75 - 100 Wt %

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

Change contaminated, saturated clothing.

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Following inhalation:

Remove casualty to fresh air and keep warm and at rest.

Call a physician immediately.

In case of skin contact:

After contact with skin, wash immediately with plenty of water and soap.

In case of skin irritation, consult a physician.

After eye contact:

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

After ingestion:

Let water be drunk in little sips (dilution effect).

Do NOT induce vomiting.

Never give anything by mouth to an unconscious person or a person with cramps.

Call a physician immediately.

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

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

First Aid, decontamination, treatment of symptoms.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Sand alcohol resistant foam Extinguishing powder Dry extinguishing powder

Unsuitable extinguishing media:

High power water jet

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products:

In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

5.4. Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:

Keep unprotected people away and stay on the upwind side.

Special danger of slipping by leaking/spilling product.

6.1.2. For emergency responders

No data available

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

6.3. Methods and material for containment and cleaning up

For containment:

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

For cleaning up:

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Collect in closed containers for disposal.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

6.5. Additional information

No data available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

All work processes must always be designed so that the following is as low as possible: Inhalation Skin contact Eye contact

Always close containers tightly after the removal of product.

Fire prevent measures:

Only use the material in places where open light, fire and other flammable sources can be kept away.

Measures to prevent aerosol and dust generation:

During filling, metering and sampling should be used if possible:

Use a closed dosage system.

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Environmental precautions:

Shafts and sewers must be protected from entry of the product.
Provide for retaining containers, eg. floor pan without outflow.

Advices on general occupational hygiene

When using do not eat, drink, smoke, sniff.
Wash hands before breaks and after work.
Use protective skin cream before handling the product.
Do not put any product-impregnated cleaning rags into your trouser pockets.

7.2. Conditions for safe storage, including any incompatibilities

Packaging materials:

Keep/Store only in original container.

Requirements for storage rooms and vessels:

Keep container tightly closed. Provide for retaining containers, eg. floor pan without outflow.
Floors should be impervious, resistant to liquids and easy to clean.

Hints on storage assembly:

Materials to avoid: Oxidising agent

Storage class: 8A – Combustible corrosive substances

Further information on storage conditions:

Further information on storage conditions Protect against: Heat Frost
Recommended storage temperature 15-25 °C
storage stability max. 1 year.

7.3. Specific end use(s)

Recommendation:

Observe technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① long-term occupational exposure limit value ② short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
IOELV (EU)	2-aminoethanol CAS No.: 141-43-5	① 1 ppm (2.5 mg/m ³) ② 3 ppm (7.6 mg/m ³) ⑤ (May be absorbed through the skin.)
TRGS 900 (DE)	2-aminoethanol CAS No.: 141-43-5	① 2 ppm (5.1 mg/m ³) ② 4 ppm (10.2 mg/m ³)

8.1.2. biological limit values

No data available

8.1.3. DNEL-/PNEC-values

No data available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

8.2.2. Personal protection equipment



Eye/face protection:

Tightly sealed safety glasses.

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Skin protection:

Hand protection: Tested protective gloves must be worn - In case of prolonged or frequently repeated skin contact:

Suitable material: Suitable material: NBR (Nitrile rubber) Butyl caoutchouc (butyl rubber)

Thickness of the glove material: 0,7 mm

Breakthrough time (maximum wearing time): > 480 min.

Respiratory protection:

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at: exceeding exposure limit values, insufficient ventilation, aerosol or mist formation

Other protection measures:

Do not put any product-impregnated cleaning rags into your trouser pockets.

Set out skin protection guidelines. Before starting work, apply water-resistant skincare preparations.

Avoid contact with skin, eyes and clothes.

8.2.3. Environmental exposure controls

See section 7. No additional measures necessary.

8.3. Additional information

No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: liquid

Colour: colourless

Odour: characteristic

Safety relevant basis data

parameter		at °C	Method	Remark
pH	≈ 12	20 °C		
Melting point/freezing point	<i>not determined</i>			
Freezing point	<i>not determined</i>			
Initial boiling point and boiling range	> 100 °C			
Decomposition temperature (°C):	<i>not determined</i>			
Flash point	<i>No data available</i>		DIN EN ISO 2592	
Evaporation rate	<i>not determined</i>			
Ignition temperature in °C	> 410		DIN 51794	
Upper/lower flammability or explosive limits	3.4 - 27 Vol-%			
Vapour pressure	0.5 hPa	20 °C		
Vapour density	2.1			
Density	1.02 g/cm ³	15 °C	DIN EN ISO 12185	
Bulk density	<i>not determined</i>			
Water solubility (g/L)	easily soluble			
Partition coefficient: n-octanol/water	<i>not determined</i>			
Dynamic viscosity	<i>not determined</i>			
Kinematic viscosity	≈ 24 mm ² /s	20 °C	DIN 51562	

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

There are no data available on the mixture itself.

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10.2. Chemical stability

The product is stable.

10.3. Possibility of hazardous reactions

No hazardous reactions known.

10.4. Conditions to avoid

Protect against: Heat Frost

10.5. Incompatible materials

Oxidising agent, strong, Acid

10.6. Hazardous decomposition products

No decomposition under normal conditions.

Combustion products: SECTION 5: Firefighting measures

SECTION 11: Toxicological information

11.1. Information on toxicological effects

CAS No.	Substance name	Toxicological information
141-43-5	2-aminoethanol	LD₅₀ oral: 1,510 mg/kg (rat) LD₅₀ dermal: 1,000 mg/kg (rabbit)

Acute oral toxicity:

Harmful if swallowed.

Acute dermal toxicity:

Harmful in contact with skin.

Acute inhalation toxicity:

Harmful by inhalation.

Skin corrosion/irritation:

Corrosive

The statement is derived from the properties of the single components.

Eye damage/irritation:

Corrosive

The statement is derived from the properties of the single components.

Respiratory or skin sensitisation:

not sensitising.

The statement is derived from the properties of the single components.

Carcinogenicity:

The components in this formulation do not meet the criteria for classification as CMR category 1 or 2.

STOT-single exposure:

Not known.

STOT-repeated exposure:

Not known.

Aspiration hazard:

Based on available data, the classification criteria are not met.

Additional information:

Processing vapours can irritate the respiratory tracts, skin and eyes.

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SECTION 12: Ecological information

12.1. Toxicity

Aquatic toxicity:

There are no data available on the mixture itself.

The ecotoxicological properties of this mixture are determined by the ecotoxicological properties of the single components (see section 3).

CAS: 141-43-5

Acute (short-term) fish toxicity

LC50: Cyprinus carpio (Common Carp) > 100 mg/l / 96 h / OECD 203

Acute (short-term) toxicity to crustacea

EC50: Daphnia magna (Big water flea) 65 mg/l / 48 h / OECD 202

Acute (short-term) toxicity to aquatic algae and cyanobacteria

EC50: Scenedesmus subspicatus 22 mg/l / 72 h / OECD 201

Assessment/classification:

harmless to aquatic organisms up to the tested concentration

12.2. Persistence and degradability

Biodegradation:

Readily biodegradable (according to OECD criteria).

OECD 301A/ ISO 7827/ EEC 92/69/V, C.4-A

12.3. Bioaccumulative potential

Accumulation / Evaluation:

No information available.

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product:

12 01 09 *	machining emulsions and solutions free of halogens
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*: Evidence for disposal must be provided.

Waste treatment options

Appropriate disposal / Product:

Dispose of waste according to applicable legislation.

Appropriate disposal / Package:

Dispose of waste according to applicable legislation.

Non-contaminated packages may be recycled.

13.2. Additional information

No data available

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SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN-No.			
2491	2491	2491	2491
14.2. UN proper shipping name			
ETHANOLAMINE	ETHANOLAMINE	ETHANOLAMINE	ETHANOLAMINE
14.3. Transport hazard class(es)			
 8	 8	 8	 8
14.4. Packing group			
III	III	III	III
14.5. Environmental hazards			
No	No	No	No
14.6. Special precautions for user			
Special provisions: Limited quantity (LQ): Hazard identification number (Kemler No.): 80 Classification code: C7 tunnel restriction code: E Remark:	Special provisions: Limited quantity (LQ): Classification code: C7 Remark:	Special provisions: 223 Limited quantity (LQ): EmS-No.: F-A / ; S-B Remark:	Special provisions: A3 Limited quantity (LQ): Remark:

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU legislation

Other regulations (EU):

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

15.1.2. National regulations

[DE] National regulations

Störfallverordnung

Remark:

-

Technische Anleitung Luft (TA-Luft)

Klasse 1:

ETHANOLAMINE

Anteil 1:

100 Gew.-%

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Water hazard class (WGK)

WGK:

1 - schwach wassergefährdend

Source:

Anh. 4

15.2. Chemical Safety Assessment

No information available.

15.3. Additional information

No data available

SECTION 16: Other information

16.1. Indication of changes

(previous version: 2013.1)

14.08.2015 Version: 2015.1

Indication of changes

SECTION 2: Hazards identification

SECTION 3: Composition / information on ingredients

16.2. Abbreviations and acronyms

No data available

16.3. Key literature references and sources for data

No data available

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Classification according to Regulation (EC) No 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
Corrosive to metals (<i>Met. Corr. 1</i>)	H290: May be corrosive to metals.	
Acute toxicity (oral) (<i>Acute Tox. 4</i>)	H302: Harmful if swallowed.	
Acute toxicity (dermal) (<i>Acute Tox. 4</i>)	H312: Harmful in contact with skin.	
Skin corrosion/irritation (<i>Skin Corr. 1B</i>)	H314: Causes severe skin burns and eye damage.	
Acute toxicity (inhalative) (<i>Acute Tox. 4</i>)	H332: Harmful if inhaled.	
STOT-single exposure (<i>STOT SE 3</i>)	H335: May cause respiratory irritation.	

16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

16.6. Training advice

No data available

16.7. Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.