

## Safety Data Sheet acc. to OSHA HCS

Printing date 12/26/2018

Reviewed on 12/21/2018

### 1 Identification

- **Product identifier**
- **Trade name:** **BROCO RPA**
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
BROCO PRODUCTS INC.  
18624 SYRACUSE AVE  
CLEVELAND, OH 44110 USA  
sales@brocoproducts.com
- **Emergency telephone number:**  
During Operating Hours: (216) 531-0880  
24 Hour Emergency Phone: CHEMTREC 1-800-424-9300

### 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2A H319 Causes serious eye irritation.  
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.
- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**  
2,2'-iminodiethanol  
2-aminoethanol
- **Hazard statements**  
Causes skin irritation.  
Causes serious eye irritation.  
Harmful to aquatic life with long lasting effects.
- **Precautionary statements**  
Wash thoroughly after handling.  
Avoid release to the environment.  
Wear protective gloves / eye protection / face protection.  
If on skin: Wash with plenty of water.  
Specific treatment (see on this label).  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If skin irritation occurs: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.  
If eye irritation persists: Get medical advice/attention.  
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = \*1  
Fire = 0  
Reactivity = 0

(Contd. on page 2)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 12/26/2018

Reviewed on 12/21/2018

Trade name: BROCO RPA

(Contd. of page 1)

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

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

- **Dangerous components:**

111-42-2	2,2'-iminodiethanol	10-25%
141-43-5	2-aminoethanol	≥5-≤10%
102-71-6	Triethanolamine	2.5-10%

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product and launder before reuse.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:**  
Pressure demand, self-contained respiratory protection and protective clothing should be worn by firefighters in areas where product would be stored or used.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

111-42-2	2,2'-iminodiethanol	3 mg/m <sup>3</sup>
141-43-5	2-aminoethanol	6 ppm
102-71-6	Triethanolamine	15 mg/m <sup>3</sup>

- **PAC-2:**

111-42-2	2,2'-iminodiethanol	28 mg/m <sup>3</sup>
141-43-5	2-aminoethanol	170 ppm
102-71-6	Triethanolamine	240 mg/m <sup>3</sup>

(Contd. on page 3)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 12/26/2018

Reviewed on 12/21/2018

Trade name: BROCO RPA

(Contd. of page 2)

· PAC-3:		
111-42-2	2,2'-iminodiethanol	130 mg/m <sup>3</sup>
141-43-5	2-aminoethanol	1,000 ppm
102-71-6	Triethanolamine	1,500 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Never add concentrated alkaline or acidic materials to heated tanks without extreme caution to reduce the danger of chemical reactions and potential employee exposures.  
Never add water directly to concentrated alkaline or acidic materials. Always add material into water for dilution.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· Components with limit values that require monitoring at the workplace:	
<b>111-42-2 2,2'-iminodiethanol</b>	
REL	Long-term value: 15 mg/m <sup>3</sup> , 3 ppm
TLV	Long-term value: 1* mg/m <sup>3</sup> , 0.2* ppm Skin; *inhalable fraction and vapor
<b>141-43-5 2-aminoethanol</b>	
REL	Long-term value: 6 mg/m <sup>3</sup> , 3 ppm
REL	Short-term value: 15 mg/m <sup>3</sup> , 6 ppm Long-term value: 8 mg/m <sup>3</sup> , 3 ppm
TLV	Short-term value: 15 mg/m <sup>3</sup> , 6 ppm Long-term value: 7.5 mg/m <sup>3</sup> , 3 ppm
<b>102-71-6 Triethanolamine</b>	
TLV	Long-term value: 5 mg/m <sup>3</sup>

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 4)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 12/26/2018

Reviewed on 12/21/2018

Trade name: BROCO RPA

(Contd. of page 3)

- **Eye protection:**  
Safety glasses recommended at all times when working around product.



Tightly sealed goggles

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Light blue
Odor:	Petroleum-like
Odor threshold:	Not determined.

- pH-value at 20 °C (68 °F): 9.6

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)

- Flash point: Not applicable.

- Flammability (solid, gaseous): Not applicable.

- Ignition temperature: 305 °C (581 °F)

- Decomposition temperature: Not determined.

- Auto igniting: Product is not selfigniting.

- Danger of explosion: Product does not present an explosion hazard.

- **Explosion limits:**

Lower:	2.1 Vol %
Upper:	10.6 Vol %

- Vapor pressure at 20 °C (68 °F): 0.3 hPa (0.2 mm Hg)

- Density at 20 °C (68 °F): 1.18 g/cm<sup>3</sup> (9.8471 lbs/gal)

- Relative density: Not determined.

- Vapor density: Not determined.

- Evaporation rate: Not determined.

- **Solubility in / Miscibility with**

Water:	Fully miscible.
--------	-----------------

- Partition coefficient (n-octanol/water): Not determined.

- **Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.

- **Solvent content:**

Organic solvents:	35.0 %
VOC content:	35.00 %

- Solids content: 65.0 %

- Other information: No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.

- **Chemical stability**

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

- **Possibility of hazardous reactions** Reacts with strong oxidizing agents.

- **Conditions to avoid** No further relevant information available.

- **Incompatible materials:** No further relevant information available.

(Contd. on page 5)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 12/26/2018

Reviewed on 12/21/2018

Trade name: BROCO RPA

· **Hazardous decomposition products:** Toxic metal oxide smoke

(Contd. of page 4)

### 11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

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

#### 111-42-2 2,2'-iminodiethanol

Oral	LD50	1,600 mg/kg (rat)
Dermal	LD50	12,200 mg/kg (rabbit)

#### 141-43-5 2-aminoethanol

Oral	LD50	2,050 mg/kg (rat)
Dermal	LD50	1,000 mg/kg (rabbit)

· **Primary irritant effect:**

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

111-42-2	2,2'-iminodiethanol	2B
102-71-6	Triethanolamine	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

### 12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Harmful to fish

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Harmful to aquatic organisms

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:**

Dispose of unused material and/or containers in accordance with local, state, federal, and national regulations.

Empty containers may retain product residue and/or vapors. Obey all hazard warnings and handle empty containers as if contents retained. Improper reuse or disposal of containers may be dangerous and/or illegal. Do not use for another purpose when empty. FOR INDUSTRIAL USE ONLY.

(Contd. on page 6)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/26/2018

Reviewed on 12/21/2018

Trade name: BROCO RPA

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

(Contd. of page 5)

## 14 Transport information

· <b>UN-Number</b> · DOT, ADN, IMDG, IATA	Not Regulated for Transportation
· <b>UN proper shipping name</b> · DOT, ADN, IMDG, IATA	Not Regulated for Transportation
· <b>Transport hazard class(es)</b> · DOT, ADN, IMDG, IATA · <b>Class</b>	Not Regulated for Transportation
· <b>Packing group</b> · DOT, IMDG, IATA	Not Regulated for Transportation
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	Not Regulated for Transportation

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
· Sara

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

111-42-2 | 2,2'-iminodiethanol

\*

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

111-42-2 | 2,2'-iminodiethanol

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

Diethanolamine CAS 111-42-2 RQ=100 lbs

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

The information presented herein has been compiled from sources considered to be dependable and is accurate to the best of the seller's knowledge. However, seller makes no warranty whatsoever, expressed, implied, or of merchantability regarding the accuracy of such data or the results to be obtained from the use thereof. Seller assumes no responsibility for injury to buyer or to third persons and buyer assumes all such risks. Seller assumes no responsibility for any damage to any property and buyer assumes all such risks.

· **Contact:** Q/C

· **Date of preparation / last revision** 12/26/2018 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation

(Contd. on page 7)

US

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 12/26/2018

Reviewed on 12/21/2018

**Trade name: BROCO RPA**

(Contd. of page 6)

IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
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)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

US