

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/07/2015

Reviewed on 08/07/2015

1 Identification

- **Product identifier**
- **Trade name:** AXI-THERM CLEAN BOILER
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use SU3 Industrial uses:** Uses of substances as such or in preparations at industrial sites
- **Product category PC37** Water treatment chemicals
- **Process category**
 - PROC1 Use in closed process, no likelihood of exposure
 - PROC2 Use in closed, continuous process with occasional controlled exposure
 - PROC3 Use in closed batch process (synthesis or formulation)
 - PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises
- **Environmental release category**
 - ERC4 Industrial use of processing aids in processes and products, not becoming part of articles
- **Application of the substance / the mixture .**
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 - FORIDRA srl – S.S. 16 Adriatica, 17/A
 - 60022 Castelfidardo (AN) – Italy. info@foridra.it
- **Distributor:**
 - AXIOM Industries Limited – 2615 WENTZ AVENUE
 - SASKATOON, SKS7K5J1 – CANADA
 - PHONE: (306) 651-1815 – EMAIL: info@axiomind.com
- **Information department:** product safety department, see section 16
- **Emergency telephone number:**
 - PERS 1-800-633-8253

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

- **Label elements**
- **GHS label elements**
 - The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms GHS05**
- **Signal word Danger**
- **Hazard-determining components of labeling:**
 - 2-aminoethanol
- **Hazard statements**
 - Causes severe skin burns and eye damage.
- **Precautionary statements**
 - Do not breathe dusts or mists.
 - Wear protective gloves / eye protection / face protection.
 - Wash thoroughly after handling.
 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - Immediately call a poison center/doctor.

(Contd. on page 1)

CA

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/07/2015

Reviewed on 08/07/2015

Trade name: AXI-THERM CLEAN BOILER

(Contd. of page 1)

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.*
- If swallowed: Rinse mouth. Do NOT induce vomiting.*
- In case of fire: Use for extinction: CO2, powder or water spray.*
- Store in a well-ventilated place. Keep cool.*
- Dispose of contents/container in accordance with local/regional/national/international regulations.*
- **Hazard description:**
- **WHMIS-symbols:**
B3 - Combustible liquid
D2B - Toxic material causing other toxic effects



- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



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



- **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 substances listed below with nonhazardous

• **Dangerous components:**

77-92-9	citric acid	30-60%
141-43-5	2-aminoethanol	5-10%

4 First-aid measures

- **Description of first aid measures**
- **General information:** rescuers must be well equipped
- **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.
Take off immediately all contaminated clothing.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swaiowing:** *If symptoms persist consult doctor.*
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*

(Contd. on page 2)
CA

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/07/2015

Reviewed on 08/07/2015

Trade name: AXI-THERM CLEAN BOILER

(Contd. of page 2)

- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
Carbon monoxide (CO)
CO₂
- **Advice for firefighters**
- **Protective equipment:** Firefighters, and others exposed, wear self-contained breathing apparatus.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
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).
Ensure adequate ventilation.
- **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.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **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:**
Store only in the original receptacle.
Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Storage class:** 8A
- **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.

(Contd. on page 3)
CA

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/07/2015

Reviewed on 08/07/2015

Trade name: AXI-THERM CLEAN BOILER

(Contd. of page 3)

• **Control parameters**

• Components with limit values that require monitoring at the workplace:	
141-43-5 2-aminoethanol	
EL	Short-term value: 6 ppm Long-term value: 3 ppm
E	Short-term value: 15 mg/m ³ , 6 ppm Long-term value: 7.5 mg/m ³ , 3 ppm

• **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:** Use suitable respiratory protective device in case of insufficient ventilation.

• **Protection of hands:** Protective gloves

• **Material of gloves:** Neoprene gloves

• **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.

• **Eye protection:** Tightly sealed goggles

9 Physical and chemical properties

• Information on basic physical and chemical properties	
• General Information	
• Appearance:	
Form:	Fluid
Color:	Yellow
Odor:	Characteristic
. pH-value at 20 °C:	2.7
• Change in condition Boiling point/Boiling range:	
	100 °C
Flash point:	93 °C
Ignition temperature:	385 °C
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
• Vapor pressure at 20 °C:	23 hPa
Density at 20 °C:	1.23 g/cm ³
• Solubility in / Miscibility with	
Water:	Fully miscible.
• Other information	No further relevant information available.

_____ CA

..(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/07/2015

Reviewed on 08/07/2015

Trade name: AXI-THERM CLEAN BOILER

(Contd. of page 4)

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** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Carbon monoxide
Carbon dioxide

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

• LD/LC50 values that are relevant for classification:		
141-43-5 2-aminoethanol		
Oral	LD50	2050 mg/kg (rat)
Dermal	LD50	700 mg/kg (mouse)
		1000 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **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)
None of the ingredients is listed.
• 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**
Note: no ecological testing was carried out on the product. Data are based on the properties of the main components.
- **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.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water

(Contd. on page 5)
CA

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/07/2015

Reviewed on 08/07/2015

Trade name: AXI-THERM CLEAN BOILER

(Contd. of page 5)



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

- **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:** *Disposal must be made according to official regulations.*
- **Recommended cleansing agent:** *Water, if necessary with cleansing agents.*

14 Transport information

<ul style="list-style-type: none"> • UN-Number • DOT, TDG, IMDG, IATA 	<p>UN3265</p>
<ul style="list-style-type: none"> • UN proper shipping name • DOT • TDG • IMDG, IATA 	<p><i>Corrosive liquid, acidic, organic, n.o.s. (Ethanolamine)</i> <i>3265 Corrosive liquid, acidic, organic, n.o.s. (Ethanolamine)</i> CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ETHANOLAMINE)</p>
<ul style="list-style-type: none"> • Transport hazard class(es) <p>DOT</p> <div align="center">  </div> <ul style="list-style-type: none"> • Class: 8 Corrosive substances • Label 8 <hr/> <p>TDG, IMDG, IATA</p> <div align="center">  </div> <ul style="list-style-type: none"> • Class 8 Corrosive substance • Label 8 	
<ul style="list-style-type: none"> • Packing group • DOT, TDG, IMDG, IATA 	<p>III</p>
<ul style="list-style-type: none"> • Environmental hazards: 	<p><i>Not applicable.</i></p>
<ul style="list-style-type: none"> • Special precautions for user • Danger code (Kemler): • EMS Number: • Segregation groups 	<p><i>Warning: Corrosive substances</i> 80 F-A,S-B Acids</p>

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/07/2015

Reviewed on 08/07/2015

Trade name: AXI-THERM CLEAN BOILER

(Contd. of page 6)

<ul style="list-style-type: none"> • Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code <i>Not applicable.</i>
<ul style="list-style-type: none"> • Transport/Additional information:
<ul style="list-style-type: none"> • TDG • Excepted quantities (EQ) <i>Code: E1</i> <i>Maximum net quantity per inner packaging: 30 ml</i> <i>Maximum net quantity per outer packaging: 1000 ml</i>
<ul style="list-style-type: none"> • UN "Model Regulation": <i>UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.</i>

15 Regulatory information

<ul style="list-style-type: none"> • Safety, health and environmental regulations/legislation specific for the substance or mixture • Sara 				
<ul style="list-style-type: none"> • Section 355 (extremely hazardous substances): <i>None of the ingredients is listed.</i> 				
<ul style="list-style-type: none"> • Section 313 (Specific toxic chemical listings): <i>None of the ingredients is listed.</i> 				
<ul style="list-style-type: none"> • TSCA (Toxic Substances Control Act): <i>All ingredients are listed.</i> • Proposition 65 				
<ul style="list-style-type: none"> • Chemicals known to cause cancer: <i>None of the ingredients is listed.</i> 				
<ul style="list-style-type: none"> • Chemicals known to cause reproductive toxicity for females: <i>None of the ingredients is listed.</i> 				
<ul style="list-style-type: none"> • Chemicals known to cause reproductive toxicity for males: <i>None of the ingredients is listed.</i> 				
<ul style="list-style-type: none"> • Chemicals known to cause developmental toxicity: <i>None of the ingredients is listed.</i> 				
<ul style="list-style-type: none"> • Carcinogenicity categories 				
<ul style="list-style-type: none"> • EPA (Environmental Protection Agency) <i>None of the ingredients is listed.</i> 				
<ul style="list-style-type: none"> • TLV (Threshold Limit Value established by ACGIH) <i>None of the ingredients is listed.</i> 				
<ul style="list-style-type: none"> • NIOSH-Ca (National Institute for Occupational Safety and Health) <i>None of the ingredients is listed.</i> 				
<ul style="list-style-type: none"> • Canadian substance listings: 				
<ul style="list-style-type: none"> • Canadian Domestic Substances List (DSL) <i>All ingredients are listed.</i> 				
<ul style="list-style-type: none"> • Canadian Ingredient Disclosure list (limit 0.1%) <i>None of the ingredients is listed.</i> 				
<ul style="list-style-type: none"> • Canadian Ingredient Disclosure list (limit 1%) <table border="1"> <tr> <td>77-92-9</td> <td>citric acid</td> </tr> <tr> <td>141-43-5</td> <td>2-aminoethanol</td> </tr> </table>	77-92-9	citric acid	141-43-5	2-aminoethanol
77-92-9	citric acid			
141-43-5	2-aminoethanol			

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/07/2015

Reviewed on 08/07/2015

Trade name: AXI-THERM CLEAN BOILER

(Contd. of page 7)

- **GHS label elements**

See section 2

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms** GHS05

- **Signal word** Danger

- **Hazard-determining components of labeling:**

2-aminoethanol

- **Hazard statements**

Causes severe skin burns and eye damage.

- **Precautionary statements**

Do not breathe dusts or mists.

Wear protective gloves / eye protection / face protection.

Wash thoroughly after handling.

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

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a poison center/doctor.

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

If swallowed: Rinse mouth. Do NOT induce vomiting.

In case of fire: Use for extinction: CO₂, powder or water spray.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **National regulations:**

- **Other regulations, limitations and prohibitive regulations** Not applicable

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

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing MSDS:** Research and development department

- **Contact:** ufficiotecnico@foridra.it

- **Date of preparation / last revision** 08/07/2015 / -

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods DOT: US

Department of Transportation

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)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1