

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/02/2004

Reviewed on 02/02/2004

1 Identification of substance

- **Product details**
- **Trade name:** Aluminium No.1
- **Product Use:** Reagent
- **Part of Orion:** AC2027
- **MSDS p/n:** 233234-001 Revision D
- **Manufacturer/Supplier:**
Thermo Electron Corporation
Environmental Instruments
Water Analysis Group
166 Cummings Center
Beverly, MA 01915-6110
USA
Phone: 978-232-6000
Made in Germany

2 Composition / Data on components

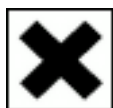
- **Chemical characterization**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

CAS No.	Description		
CAS: 124-04-9 EINECS: 204-673-3	adipic acid	Xi; R 36	40-45%
CAS: 10034-88-5 EINECS: 231-665-7	sodium hydrogensulphate	Xi; R 41	10-20%

- **Additional information:**
For the wording of the listed risk phrases refer to section 16.
The remaining 35% contains no hazardous ingredients according to OSHA definition.

3 Hazards identification

- **Hazard description:**



Xi Irritant

- **Information pertaining to particular dangers for man and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
Risk of serious damage to eyes.
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **NFPA ratings (scale 0 - 4)**
Health = 2
Fire = 1
Reactivity = 0

4 First aid measures

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water.

(Contd. on page 2)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/02/2004

Reviewed on 02/02/2004

Trade name: Aluminium No.1

(Contd. of page 1)

- Call a doctor immediately.
- **After swallowing:**
 Seek medical treatment.
 Rinse out mouth and then drink plenty of water.
 Drink copious amounts of water, induce vomiting.
- **The following symptoms may occur:**
 After inhalation:
 Irritations
 Nausea
 Vomiting
 Diarrhoea
 General feeling of sickness
 Mucous membrane irritation
 After swallowing:
 Cramp
 Breathing difficulty
 Coughing
 Gastric or intestinal disorders
- **Danger** Danger of gastric perforation.

5 Fire fighting measures

- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards caused by the material, its products of combustion or resulting gases:**
 Formation of toxic gases is possible during heating or in case of fire.
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
 Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
 Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:** Do not allow product to reach sewage system or any water course.
- **Measures for cleaning/collecting:** Pick up mechanically.

7 Handling and storage

- **Handling:**
- **Information for safe handling:** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Store in dry conditions.
- **Storage class:** Not required.

8 Exposure controls and personal protection

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

- **Components with limit values that require monitoring at the workplace:**

124-04-9 adipic acid (40-45%)

ACGIH TLV	5 mg/m ³
-----------	---------------------

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/02/2004

Reviewed on 02/02/2004

Trade name: Aluminium No.1

(Contd. of page 2)

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
- **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
After use of gloves apply skin-cleaning agents and skin cosmetics.
- **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.
Natural rubber, NR
PVC or PE 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
- **Body protection:** Light weight protective clothing

9 Physical and chemical properties

· Odor Threshold:	Not applicable.
· Form:	Tablets
· Color:	White
· Odor:	Odorless
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	265°C (509°F)
· Freezing Point:	Not applicable.
· Flash point:	> 100°C (> 212°F)
· Flammability (solid, gaseous):	
Upper Flammable Limit:	Not applicable.
Lower Flammable Limit:	Not applicable.
· Ignition temperature:	405.0°C (761°F)
· Sensitivity to Mechanical Impact:	None
· Sensitivity to Static Discharge:	None
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Vapor Pressure at 20°C (68°F):	2.7 hPa (2 mm Hg)
· Vapor Density:	Not applicable.
· Specific Gravity:	Not applicable.
· Density at 20°C (68°F):	1.479 g/cm ³
· Solubility in / Miscibility with	
Water:	Soluble.
· Coefficient of Water / Oil Distribution:	Not applicable.
· pH-value (9.8 g/l) at 20°C (68°F):	2.1
· Solvent content:	
Organic solvents:	0.0 %

(Contd. on page 4)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/02/2004

Reviewed on 02/02/2004

Trade name: Aluminium No.1

(Contd. of page 3)

· Solids content: 100.0 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Materials to be avoided:**
oxidizing agents
alkalis
- **Dangerous reactions** No dangerous reactions known.
- **Dangerous products of decomposition:** No dangerous decomposition products known.

11 Toxicological information

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

10043-35-3 boric acid, crude natural, containing not more than 85 per cent of H3BO3 calculated on the dry weight

Oral LD50 2660 mg/kg (rat)

Dermal LD50 > 2000 mg/kg (rat)

124-04-9 adipic acid

Oral LD50 5700 mg/kg (rat)

· Primary irritant effect:

- **on the skin:** No irritant effect.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.

· Additional toxicological information:

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

- **Carcinogenicity:** NTP? IARC Monographs? OSHA Regulated? Not found on these lists. see chapter 8 / 15
- **Teratogenicity:** Not found.
- **Mutagenicity:** Not found.
- **Reproductive Toxicity:** Not found.
- **Synergistic Products:** None

12 Ecological information

· Ecotoxicological effects:

· Aquatic toxicity:

10043-35-3 boric acid, crude natural, containing not more than 85 per cent of H3BO3 calculated on the dry weight

EC50 133 mg/l/48h (Daphnia magna)

124-04-9 adipic acid

EC50 86 mg/l/48h (Daphnia magna)

LC50 511 mg/l/48h (Leuciscus idus)

97 mg/l/96h (Pimephales promelas)

· Additional ecological information:

· BSB5-value:

124-04-9 adipic acid

BSB5 0.598 g/g (-)

· 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.

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/02/2004

Reviewed on 02/02/2004

Trade name: Aluminium No.1

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

(Contd. of page 4)

13 Disposal considerations

- **Product:**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to hazardous waste disposers.
Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· DOT regulations:



- **Hazard class:** 8
- **Identification number:** UN3260
- **Packing group:** III
- **Proper shipping name (technical name):** CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (sodium hydrogensulphate)
- **Label:** 8

· Land transport ADR/RID (cross-border):



- **ADR/RID class:** 8 (C2) Corrosive substances
- **Danger code (Kemler):** 80
- **UN-Number:** 3260
- **Packaging group:** III
- **Description of goods:** 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (sodium hydrogensulphate)

· Maritime transport IMDG:



- **IMDG Class:** 8
- **UN Number:** 3260
- **Label:** 8
- **Packaging group:** III
- **EMS Number:** F-A,S-B
- **Marine pollutant:** No

(Contd. on page 6)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/02/2004

Reviewed on 02/02/2004

Trade name: Aluminium No.1

(Contd. of page 5)

· **Propper shipping name:** CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (sodium hydrogensulphate)

· **Air transport ICAO-TI and IATA-DGR:**



· **ICAO/IATA Class:** 8
 · **UN/ID Number:** 3260
 · **Label** 8
 · **Packaging group:** III
 · **Propper shipping name:** CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (sodium hydrogensulphate)
 · **TDG Class:** 8

15 Regulations

· **Sara**

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

10043-35-3 boric acid, crude natural, containing not more than 85 per cent of H3BO3 calculated on the dry weight

124-04-9 adipic acid

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Canadian Ingredient Disclosure List**

· **Limit 0,1%**

None of the ingredients is listed.

· **Limit 1%**

10043-35-3 boric acid, crude natural, containing not more than 85 per cent of H3BO3 calculated on the dry weight

124-04-9 adipic acid

· **Other Regulations**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

(Contd. on page 7)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 02/02/2004

Reviewed on 02/02/2004

Trade name: Aluminium No.1

(Contd. of page 6)

· Product related hazard informations:

The product has been classified and marked in accordance with directives on hazardous materials.

· Hazard symbols:

Xi Irritant

· Risk phrases:

Risk of serious damage to eyes.

· Safety phrases:

Keep out of the reach of children.

Avoid contact with skin and eyes.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear eye/face protection.

If swallowed, seek medical advice immediately and show this container or label.

Dispose of this material and its container at hazardous or special waste collection point

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

· CPR Classification: *Class E*

· MSDS Discloses Information Elements Required by the CPR .

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.

· Contact: *Thermo Electron Corporation, EID, Water Analysis, Quality Assurance*

*** Data compared to the previous version altered.**

USA