

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:** Ammonia No.1
- **Product Use:** Reagent
- **Part of Orion:** AC2012
- **MSDS p/n:** 233248-001 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

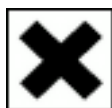
- **Chemical characterization**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

CAS No.	Description		
CAS: 69-72-7 EINECS: 200-712-3	salicylic acid	 Xn; R 22-41	25-30%
CAS: 13755-38-9 EINECS: 238-373-9	sodium nitroprusside dihydrate	 T; R 25	2.5-5%

- **Additional information:**
For the wording of the listed risk phrases refer to section 16.
The remaining 65% contains no hazardous ingredients according to OSHA definition.

3 Hazards identification

- **Hazard description:**



Xn Harmful

- **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.
Harmful if swallowed.
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

- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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- **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.
Call a doctor immediately.
- **After swallowing:**
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
Induce vomiting, if person is conscious. Seek medical help.
- **The following symptoms may occur:**
After swallowing:
Nausea
Vomiting
Danger of disturbed cardiac rhythm.
After inhalation:
Coughing
Mucous membrane irritation
Breathing difficulty
- **Danger** Danger of disturbed cardiac rhythm.

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.
Hydrogen chloride (HCl)
- **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:** Avoid formation of dust.
- **Measures for environmental protection:** Do not allow product to reach sewage system or any water course.
- **Measures for cleaning/collecting:** Dispose contaminated material as waste according to item 13.

7 Handling and storage

- **Handling:**
- **Information for safe handling:** Prevent formation of dust.
- **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:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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- **Additional information:** The lists that were valid during the creation were used as basis.
- **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.
- **Breathing equipment:**
 - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
 - Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Protection of hands:**
 - Only use chemical-protective gloves with CE-labelling of category III.
 - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 - Use gloves of stable material (e.g. Nitrile) - if necessary tricoted to improve the wearability.
 - 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.
- **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:	Pigmented
· Odor:	Odorless
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	211°C (412°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:	Undetermined.
· 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:	Not applicable.
· Vapor Density:	Not applicable.
· Specific Gravity:	Not applicable.
· Density at 20°C (68°F):	1.823 g/cm ³
· Solubility in / Miscibility with Water:	Soluble.
· Coefficient of Water / Oil Distribution:	Not applicable.
· pH-value (11.9 g/l) at 20°C (68°F):	2.5

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· Solvent content:	
Organic solvents:	0.0 %
· Solids content:	
	100.0 %

10 Stability and reactivity

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

7447-40-7 potassium chloride

Oral	LD50	2600 mg/kg (rat)
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69-72-7 salicylic acid

Oral	LD50	1250-1580 mg/kg (rat)
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Dermal	LD50	> 2000 mg/kg (rat)
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13755-38-9 sodium nitroprusside dihydrate

Oral	LD50	99 mg/kg (rat)
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	LDLo	20 mg/kg (rat)
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· 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:

Harmful

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:

69-72-7 salicylic acid

Daphnia EC50	230 mg/l/24h (Daphnia magna)
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LC50	90 mg/l/48h (Leuciscus idus)
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· Additional ecological information:

· BSB5-value:

69-72-7 salicylic acid

BSB5	0.95 g/g (-)
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· General notes:

Water danger class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

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*Danger to drinking water if even extremely small quantities leak into the ground.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.*

13 Disposal considerations

- **Product:**
- **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

- **DOT regulations:**
- **Hazard class:** *None*
- **Land transport ADR/RID (cross-border):**
- **ADR/RID class:** *None*
- **Maritime transport IMDG:**
- **IMDG Class:** *None*
- **Marine pollutant:** *No*
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** *None*
- **Propper shipping name:** *None*
- **TDG Class:** *None*

· **Transport/Additional information:** *Not dangerous according to the above specifications.*

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):**

7447-40-7 | *potassium chloride*

69-72-7 | *salicylic acid*

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

· **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%**

69-72-7 | *salicylic acid*

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- **Limit 1%**
cyanide compounds, anorganic, n.o.s.

13755-38-9	sodium nitroprusside dihydrate
10043-35-3	boric acid, crude natural, containing not more than 85 per cent of H3BO3 calculated on the dry weight

- **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.

- **Product related hazard informations:**
The product has been classified and marked in accordance with directives on hazardous materials.

- **Hazard symbols:**
Xn Harmful

- **Hazard-determining components of labelling:**
sodium nitroprusside dihydrate
salicylic acid

- **Risk phrases:**
Harmful if swallowed.
Risk of serious damage to eyes.

- **Safety phrases:**
Keep out of the reach of children.
Keep away from food, drink and animal feedingstuffs.
Do not breathe dust.
Avoid contact with eyes.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Wear suitable protective clothing and eye/face protection.

- **Water hazard class:** Water danger class 3 (Self-assessment): extremely hazardous for water.
- **CPR Classification:** Class D, Div. 2

- **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.**