

AMA-324

Ref. /US/EN

Revision Date: 05/18/2015

Previous date: 00/00/0000

Print Date:05/22/2015

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product information****Product name**
AMA-324**Recommended use of the chemical and restrictions on use****Use of the Substance/Mixture**

Biocide

Recommended restrictions on use

Restricted to professional users.

Supplier's detailsKemira Chemicals, Inc.
1000 Parkwood Circle, Suite 500
30339 Atlanta USA
Telephone+17704361542, Telefax. +17704363432HEAD OFFICE
Kemira Oyj
P.O. Box 330
00101 HELSINKI
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Telephone +358108611 Telefax +358108621124**Emergency number**

CHEMTREC: 1-800-424-9300

2. HAZARDS IDENTIFICATION**Classification of the substance or mixture**Acute toxicity (Oral); Category 4; Harmful if swallowed.;
Skin corrosion; Category 1A; Causes severe skin burns and eye damage.;
Serious eye damage; Category 1; Causes serious eye damage.;
Skin sensitisation; Category 1; May cause an allergic skin reaction.;
Specific target organ toxicity - single exposure; Category 3; May cause respiratory irritation.; Respiratory system;

AMA-324

Ref. /US/EN

Revision Date: 05/18/2015

Previous date: 00/00/0000

Print Date:05/22/2015

Acute aquatic toxicity; Category 1; Very toxic to aquatic life.;
Chronic aquatic toxicity; Category 1; Very toxic to aquatic life with long lasting effects.;

GHS-Labeling

Hazard pictograms



Signal word

: Danger

Hazard statements

: **Hazard statements:**

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

: **Prevention:**

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash face, hands and any exposed skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

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.
P363 Wash contaminated clothing before reuse.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

AMA-324

Ref. /US/EN

Revision Date: 05/18/2015

Previous date: 00/00/0000

Print Date:05/22/2015

P310	Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P391	Collect spillage.
Storage: P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
Disposal: P501	Dispose of contents/container as special waste in compliance with local and national regulations.

Hazardous components which must be listed on the label:

- 533-74-4 Dazomet
- 1310-73-2 Sodium hydroxide

Other hazards which do not result in classification

Advice; DANGER! Keep out of reach of children. Corrosive. Avoid contact with skin, eyes and clothing. Toxic to fish.

Inhalation; Avoid breathing vapors or mist. Prolonged or excessive inhalation may cause respiratory tract irritation or burns of the mucous membranes.

Skin; Causes skin irritation. May cause burns on prolonged contact.

Eyes; Causes severe eye burns. Risk of serious damage to eyes.

Ingestion; Not considered a potential route of exposure. Ingestion can cause irritation of the mouth, throat and esophagus.

Chronic exposure; Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitisation of susceptible persons. No known carcinogenic effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances /Mixtures

Hazardous components

Chemical Name	CAS-No.	Concentration[%]
Dazomet	533-74-4	24 %
Sodium hydroxide	1310-73-2	< 4 %

Further information

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

4. FIRST AID MEASURES

Description of first aid measures

General advice

Show this safety data sheet to the doctor in attendance.

Inhalation

If breathing is difficult, remove to fresh air and provide oxygen. Call a poison control center or doctor for treatment advice. If person is not breathing, call the emergency service or an ambulance, then give artificial respiration.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain prompt medical consultation, preferably from an ophthalmologist.

Ingestion

Do NOT induce vomiting. Drink 1 or 2 glasses of water or milk. Call a poison control center or doctor for treatment advice. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Symptoms : Possible mucosal damage may contraindicate the use of gastric lavage., Symptomatic treatment.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Water, Foam, Dry powder, Carbon dioxide (CO₂)

Special hazards arising from the substance or mixture

The pressure in sealed containers can increase under the influence of heat. Thermal decomposition products:

Sulphur oxides (SO_x), Carbon oxides (CO_x), Nitrogen oxides (NO_x)

Special protective actions for fire-fighters

Wear self-contained breathing apparatus and protective suit. Use NIOSH/MSHA approved respiratory protection.

Further information

Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water mist may be used to cool closed containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Use personal protective equipment.

Environmental precautions

Avoid runoff into storm sewers and ditches which lead to waterways. Toxic to aquatic organisms.

Methods and materials for containment and cleaning up

Contain spill. Soak up with inert absorbent material (diatomaceous earth, sand) Transfer into suitable containers for disposal. Clean contaminated surface thoroughly. Must be disposed of in accordance with local and national regulations.

Additional advice

Do not allow material to contaminate ground water system.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid inhalation of vapour or mist. Use only with adequate ventilation/personal protection. Ensure that eyewash stations and safety showers are close to the workstation location. Observe label precautions. For personal protection see section 8.

Conditions for safe storage, including any incompatibilities

Store in original container. Keep tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Stable under recommended storage conditions.

Materials to avoid:

Strong acids and strong bases, Strong oxidizing agents, Strong reducing agents

Storage stability:Storage temperature 2 - 55 °C
35 - 131 °F**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Components with workplace control parameters

Components	CAS-No.	Value	Form of exposure	Control parameters	Update	Basis
sodium hydroxide	1310-73-2	(c)		2 mg/m ³	2007-01-01	CA AB OEL

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Use personal protective equipment.

Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use.

Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water.

Handle in accordance with good industrial hygiene and safety practice.

Individual protection measures, such as personal protective equipment**Respiratory protection**

When there is potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.

Hand protection

Chemical resistant gloves.

Skin and body protection

Wear protective clothing (long-sleeved, long-legged). Chemical resistant apron Chemical resistant boots. Remove and wash contaminated clothing before re-use.

Eye protection

Tightly fitting safety goggles. Chemical goggles are recommended. Use full-face respirator when material is heated or vapor generated. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid,
Colour	light yellow
Odour	pungent
pH	13.6
Initial boiling point and boiling range	Boiling point/boiling range 212 °F
Flash point	> 93.9 °C (closed cup)201 °F
Evaporation rate	< 1 (n-butyl acetate = 1)
Explosive properties:	
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Density	1.16 g/cm ³ (25 °C)
Solubility(ies):	
Water solubility	completely soluble
Partition coefficient: n-octanol/water	log Pow: -0.3
Viscosity:	
Viscosity, dynamic	7.2 mPa.s (24 °C) 7.2 cP

10. STABILITY AND REACTIVITY

Reactivity

Chemical stability

Possibility of hazardous reactions

Hazardous reactions: Hazardous polymerisation does not occur.
Stable under recommended storage conditions.

Conditions to avoid

Conditions to avoid: Avoid extreme temperatures.

AMA-324

Ref. /US/EN

Revision Date: 05/18/2015

Previous date: 00/00/0000

Print Date:05/22/2015

Incompatible materials

Materials to avoid: Strong acids and strong bases
Strong oxidizing agents
Strong reducing agents

Hazardous decomposition products

Hazardous decomposition products: Dazomet decomposes mainly by hydrolysis and the main decomposition product is methyl-isothiocyanate (MITC).

Hazardous decomposition products formed in contact with acids:
Carbon oxides (CO_x)
carbon disulphide (CS₂)
Nitrogen oxides (NO_x)
Sulphur oxides (SO_x)
hydrogen sulfide

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute oral toxicity	Conclusion: Harmful if swallowed. Remarks: Information given is based on tests on the mixture itself.
Acute oral toxicity	/Rat/1,650 mg/kg/LD50 Dazomet: Conclusion: Harmful if swallowed.
Acute inhalation toxicity	/Rat/519 mg/kg/LD50 LC50/Rat/4.993 mg/l/Remarks: Information given is based on data obtained from similar substances.
Acute inhalation toxicity	Dazomet: LC50/Rat/4 h/8.4 mg/l/OECD Test Guideline 403
Acute dermal toxicity	Dazomet: LD50/Rat/> /2,000 mg/kg

AMA-324

Ref. /US/EN

Revision Date: 05/18/2015

Previous date: 00/00/0000

Print Date:05/22/2015

	<p>Sodium hydroxide: LD50/Rabbit /1,350 mg/kg</p>
Acute toxicity (other routes of administration)	<p>Sodium hydroxide: LD50/Mouse/ipr /40 mg/kg</p>
Skin corrosion/irritation	<p>Conclusion: Corrosive, May cause damage to skin., Repeated or prolonged exposure may cause irritation or burns of skin.</p>
Skin corrosion/irritation	<p>Dazomet: Rabbit Result: No skin irritation /OECD Test Guideline 404Remarks: Primary irritation</p> <p>Sodium hydroxide: Rabbit Result: Causes burns. /Draize Test</p> <p>Sodium hydroxide: Result: Corrosive to skin /OECD Test Guideline 435</p>
Serious eye damage/eye irritation	<p>Conclusion: Corrosive to the eyes., Risk of serious damage to eyes., Exposure may result in reddening, tears and itching of the eyes and soreness in the nose and throat, together with coughing.</p>
Serious eye damage/eye irritation	<p>Sodium hydroxide: Rabbit Result: Corrosive /Draize Test</p>
Respiratory or skin sensitisation	
Mucous membranes	<p>Dazomet: /OECD Test Guideline 405/Rabbit Result:No irritating effects.</p> <p>Remarks:Primary irritation</p>
Skin sensitisation	<p>Remarks: Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitisation of susceptible persons.</p>
Skin sensitisation	<p>Dazomet:</p> <p>Conclusion: Not sensitizing.</p>

	Sodium hydroxide:
	Conclusion: Skin, :, Not sensitizing.
Germ cell mutagenicity	
Genotoxicity in vitro	Sodium hydroxide: Ames test/Salmonella typhimurium (bacterium)/No data available Result: negative
Genotoxicity in vivo	Dazomet: Conclusion: Does not cause heritable genetic damage., Did not show mutagenic effects in animal experiments.
Carcinogenicity	
Carcinogenicity	Dazomet: Did not show carcinogenic effects in animal experiments. Sodium hydroxide: No known carcinogenic or other chronic effects.
Reproductive toxicity	
Toxicity for reproduction	Dazomet: Conclusion: Did not show teratogenic effects in animal experiments. Sodium hydroxide: Conclusion: Negative mutagenicity tests support no classification.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Aquatic toxicity

Toxic to aquatic organisms.

LC50/96 h/Scophthalmus maximus (juvenile turbot)/Acute Fish toxicity: 0.25 mg/l

Remarks: (24 % active)

LC50/10 d/Corophium volutator (amphipoda): 90.4 mg/l

Remarks: (24 % active)

LC50/48 h/Acartia tonsa (copepod): 1.32 mg/l

Remarks: (24 % active)

EC50/72 h/Skeletonema costatum (diatom): 0.25 mg/l

AMA-324

Ref. /US/EN

Revision Date: 05/18/2015

Previous date: 00/00/0000

Print Date:05/22/2015

Remarks: (24 % active)

Dazomet:

LC50/96 h/Salmo gairdneri (rainbow trout): 0.16 mg/l

EC50/48 h/Daphnia magna (Water flea): 0.3 mg/l

Very toxic to aquatic organisms.

Sodium hydroxide:

LC50/96 h/Oncorhynchus mykiss (rainbow trout): 45.4 mg/l

LC50/96 h/Gambusia affinis (Mosquito fish): 125 mg/l

LC100/24 h/Cyprinus carpio (Carp): 180 mg/l

LC50/24 h/Carassius auratus (goldfish): 160 mg/l

LC50/48 h/Leuciscus idus (ide): 157 - 189 mg/l

EC50/48 h/Daphnia (water flea)/Immobilization: 40.4 mg/l

Toxicity to other organisms

Remarks: No data available

Persistence and degradability

Biological degradability:

/OECD Test Guideline 306/28 d: 70 %

Chemical degradation:

Dazomet decomposes mainly by hydrolysis and the main decomposition product is methyl-isothiocyanate (MITC).

Biological degradability:**Dazomet:**

DOC reduction/OECD Test Guideline 302 B: > 70 % Readily eliminated from water

Biochemical Oxygen Demand (BOD): 85 mg/g (5 d)

Chemical Oxygen Demand (COD): 1,270 mg/g

Sodium hydroxide:

The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

Partition coefficient: n-octanol/water: log Pow: -0.3

Dazomet:

Partition coefficient: n-octanol/water: log Pow: 0.163

Sodium hydroxide:

Does not bioaccumulate.

AMA-324

Ref. /US/EN

Revision Date: 05/18/2015

Previous date: 00/00/0000

Print Date:05/22/2015

Partition coefficient: n-octanol/water: Not applicable, inorganic compound
Mobility in soil

Water solubility: completely soluble

Dazomet:

Water solubility:3.6 g/l (20 °C)

Is likely to be mobile, adsorption to soil is low.

Sodium hydroxide:

Water solubility:1,110 g/l (25 °C); May leach into ground water.

Other adverse effects

None known.

13. DISPOSAL CONSIDERATIONS

Product	Must be disposed of in accordance with local and national regulations. Dispose of as hazardous waste in compliance with local and national regulations.
Contaminated packaging	Packages must be disposed of according to local and national regulations. Do not re-use empty containers. Triple rinse containers. Can be offered for recycling, re-conditioning or puncture.

14. TRANSPORT INFORMATION

UN number	3266
Land transport	
DOT:	
Description of the goods:	UN3266, Corrosive liquid, basic, inorganic n.o.s. (Sodium hydroxide)
Proper shipping name	
Class:	8
Packaging group:	II
DOT-Labels	8
TDG:	
Description of the goods:	UN3266, Corrosive liquid, basic, inorganic n.o.s. (Sodium hydroxide)
Proper shipping name	
Class:	8

AMA-324

Ref. /US/EN

Revision Date: 05/18/2015

Previous date: 00/00/0000

Print Date:05/22/2015

Packaging group: II
TDG-Labels 8

Sea transport

IMDG:

Description of the goods:

UN proper shipping name UN3266, CORROSIVE LIQUID, BASIC, INORGANIC N.O.S. (SODIUM HYDROXIDE)

Class: 8

Packaging group: II

IMDG-Labels: 8

Air transport

ICAO/IATA:

Description of the goods:

UN proper shipping name UN3266, Corrosive liquid, basic, inorganic n.o.s. (Sodium hydroxide)

Class: 8

Packaging group: II

ICAO-Labels: 8

Special precautions for user

15. REGULATORY INFORMATION

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

SARA Title III Section 311 Categories

Immediate (Acute) Health Effects: Yes;

Delayed (Chronic) Health Effects: Yes;

Fire Hazard: No;

Sudden Release Of Pressure Hazard: No;

Reactivity Hazard: No;

US. Environmental Protection Agency (EPA); Title III of Superfund Amendments and Reauthorization Act (SARA) of 1986 Section 313 Reportable Chemicals List, Toxic chemical listings and de minimis concentrations as amended by US Federal Register Final rules.

Dazomet (533-74-4)

CERCLA Hazardous substance (Reportable Quantities)

Sodium hydroxide (1310-73-2)

1,000 lb

Other regulations

: FIFRA STATEMENT ON HAZARD CLASSIFICATION: This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

: PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

KEEP OUT OF REACH OF CHILDREN. Corrosive. Causes severe eye damage and skin irritation. Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves when handling. If used in cooling water systems, appropriate PPE (long pants, long-sleeved shirts, chemical resistant gloves, and goggles or face shield) must be used when applying this product. Harmful if swallowed or absorbed through skin. Avoid contamination of food.

: ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish, aquatic invertebrates, oysters and shrimp. Do not apply (or use) in estuarine oil fields where drilling fluids (muds) are discharged in the surface water. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your

State Water Board or Regional Office of the EPA.

: This product is only registered to be sold in the USA. Refer to the EPA FIFRA label for approved uses.

: This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and is therefore exempt from U.S. Toxic Substance Control Act (TSCA) Inventory listing requirements.

Notification status

: This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and is therefore exempt from U.S. Toxic Substance Control Act (TSCA) Inventory listing requirements.

: This product is subject to regulation under the Canadian Pest Control Products Act (P.C.P. Act). Therefore, this product is excluded from the supplier labeling and material safety data sheet requirements as specified in Section 12 of the Hazardous Products Act.

16. OTHER INFORMATION**HMIS Rating**

Health: 3

Flammability: 1

Reactivity: 0

PPI: Ask supervisor or safety specialist for handling instructions

NFPA Rating

Health: 3

Fire: 1

Reactivity: 0

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as



SAFETY DATA SHEET

AMA-324

Ref. /US/EN

Revision Date: 05/18/2015

Previous date: 00/00/0000

Print Date:05/22/2015

a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.