

AO-71 Safety Data Sheet

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Acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: July 09, 2018

Revision: 1/19, 2019

1 Identification

- **Product identifier**
- **Trade name:** AO-71
- **Product code:** AO-71
- **Recommended use and restriction on use**
- **Recommended use:** Antifoulant
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
Nexo Solutions, Amine Optimization Division
25003 Pitkin Road, Suite A100, The Woodlands, TX 77386 (USA)
- **Emergency telephone number:** ChemTel at 1-800-255-3924
Written on July 8th, 2018

2 Hazard(s) identification

- **Classification of the substance or mixture**
Flam. Liq. 4 H227 Combustible liquid.
Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
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 GHS07
- **Signal word:** Danger
- **Hazard statements:**
H227 Combustible liquid.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
- **Precautionary statements:**
P210 Keep away from flames and hot surfaces. – No smoking.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection.
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
P330 Rinse mouth.

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P302+P352 If on skin: Wash with plenty of soap and water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a poison center/doctor.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

P370+P378 In case of fire: Use for extinction: CO₂, powder or water spray.

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

• **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

• **Chemical characterization: Mixtures**

• **Components:**

2767-80-8	phosphinidynetrimethanol  Acute Tox. 3, H301  Eye Dam. 1, H318  Skin Irrit. 2, H315; STOT SE 3, H335	5-12%
1067-12-5	phosphinylidynetrimethanol  Acute Tox. 4, H302; Eye Irrit. 2A, H319	1-10%
12125-02-9	Ammonium Chloride  Eye Dam. 1, H318  Skin Irrit. 2, H315	0 - 2%
57-55-6	Propylene glycol	<1%

• **Additional information:**

For the wording of the listed Hazard Statements, refer to section 16.

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.

4 First-aid measures

• **Description of first aid measures**

• **After inhalation:** Supply fresh air; consult doctor in case of complaints.

• **After skin contact:**

Wash with soap and water.

Seek medical treatment in case of complaints.

• **After eye contact:**

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. Then consult a doctor.

• **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

• **Most important symptoms and effects, both acute and delayed:**

Nausea in case of ingestion.

Gastric or intestinal disorders when ingested.

Strong irritant with the danger of severe eye injury.

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Danger: Harmful if swallowed.

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· **Indication of any immediate medical attention and special treatment needed:** Treat symptomatically.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray.
- **For safety reasons unsuitable extinguishing agents:** None.
- **Special hazards arising from the substance or mixture**
Combustible liquid.
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation.
Use personal protective equipment as required.
- **Environmental precautions**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Methods and material for containment and cleaning up**
Absorb with non-combustible liquid-binding material (sand, diatomite, acid binders, universal binders).
Send for recovery or disposal in suitable receptacles.
- **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:**
Use only in well ventilated areas.
Open and handle receptacle with care.
Avoid contact with the eyes and skin.
Avoid breathing mist, vapors, or spray.
Keep out of reach of children.
- **Information about protection against explosions and fires:**
Combustible liquid.
Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**

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- **Requirements to be met by storerooms and receptacles:**
Store in cool, dry conditions in well sealed receptacles.
Avoid storage near extreme heat, ignition sources or open flame.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from oxidizing agents.
- **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

· Control parameters

· Components with limit values that require monitoring at the workplace:

57-55-6 Propylene glycol

WEEL (USA) Long-term value: 10 mg/m³

EV (Canada) Long-term value: 155* 10** mg/m³, 50* ppm *vapour and aerosol; **aerosol only

· Exposure controls

· General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Avoid breathing mist, vapors, or spray.

· Engineering controls: No relevant information available.

· Breathing equipment:

Not required under normal conditions of use.
For spills, respiratory protection may be advisable.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· Eye protection:



Safety glasses

· Body protection: Protective work clothing

· Limitation and supervision of exposure into the environment

No relevant information available.

· Risk management measures No relevant information available.

9 Physical and chemical properties

· Information on basic physical and chemical properties

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· Appearance:	
Form:	Liquid
Color:	Clear to amber.
· Odor:	Pungent
· Odor threshold:	Not determined.
· pH-value:	4.4
· Melting point/Melting range:	-24.4 °C (-12 °F)
· Boiling point/Boiling range:	98.9 °C (210 °F)
· Flash point:	84.4 °C (184 °F)
· Flammability (solid, gaseous):	Not applicable.
· Auto-ignition temperature:	Not determined.
· Decomposition temperature:	Not determined.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits	
Lower:	Not determined.
Upper:	Not determined.
· Oxidizing properties:	Non-oxidizing.
· Vapor pressure:	Not determined.
· Density:	
Relative density:	1.08-1.11
Vapor density:	Not determined.
Evaporation rate:	Not determined.
· Solubility in / Miscibility with Water:	Soluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity	
Dynamic:	0.9 cP
Kinematic:	Not determined.
· Other information	No relevant information available.

10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
Combustible liquid.
Reacts with strong oxidizing agents.
Reacts with strong acids and alkali.
- **Conditions to avoid** Excessive heat.

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- **Incompatible materials** Oxidizers, strong bases, strong acids
- **Hazardous decomposition products**
Carbon monoxide and carbon dioxide
Phosphorus oxides (e.g. P₂O₅)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Harmful if swallowed.
- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** Based on available data, the classification criteria are not met.
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer):**
Present in trace quantities.

123-91-1	1,4-dioxane	2B
75-21-8	Ethylene oxide	1

- **NTP (National Toxicology Program):**
Present in trace quantities.

123-91-1	1,4-dioxane	R
75-21-8	Ethylene oxide	K

- **OSHA-Ca (Occupational Safety & Health Administration):**
Present in trace quantities.

75-21-8	Ethylene oxide
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- **Probable route(s) of exposure:**
Ingestion.
Inhalation.
Eye contact.
Skin contact.
- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.

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Trade name: AO-71**Other adverse effects** No relevant information available.

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13 Disposal considerations

Waste treatment methods**Recommendation:**

Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

Uncleaned packaging**Recommendation:** Disposal must be made according to official regulations.

14 Transport information

UN-Number

DOT, ADR, IMDG, IATA

Not regulated.

UN proper shipping name

DOT, ADR, IMDG, IATA

Not regulated.

Transport hazard class(es)

DOT, ADR, IMDG, IATA

Class

Not regulated.

Packing group

DOT, ADR, IMDG, IATA

Not regulated.

Environmental hazards

Marine pollutant:

No

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information:

DOT

Classified as combustible under US DOT regulations. Labeling is only required for single packages ≥ 119 US gal / 450 L.

15 Regulatory information

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

United States (USA)

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· **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

All ingredients are listed.

· **Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

Present in trace quantities.

75-21-8	Ethylene oxide	10000
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· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

Present in trace quantities.

123-91-1	1,4-dioxane	
75-21-8	Ethylene oxide	

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

Present in trace quantities.

75-21-8	Ethylene oxide	
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· **Chemicals known to cause developmental toxicity for males:**

Present in trace quantities.

75-21-8	Ethylene oxide	
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· **Chemicals known to cause developmental toxicity:**

Present in trace quantities.

75-21-8	Ethylene oxide	
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· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

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

Present in trace quantities.

123-91-1	1,4-dioxane	2B
75-21-8	Ethylene oxide	1

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.

· **Date of preparation / last revision** July 09, 2018 / -

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association

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CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

OSHA: Occupational Safety & Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 4: Flammable liquids – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Sources

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

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