

## SAFETY DATA SHEET

Revision Date 14-Feb-2020

Revision Number 2

### 1. Identification

**Product Name** N-Acetylmorpholine

**Cat No. :** B24120

**CAS-No** 1696-20-4  
**Synonyms** 4-Acetylmorpholine.

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.  
**Details of the supplier of the safety data sheet**

**Company**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

**Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|                                   |             |
|-----------------------------------|-------------|
| Serious Eye Damage/Eye Irritation | Category 2  |
| Reproductive Toxicity             | Category 1B |

**Label Elements**

**Signal Word**

Danger

**Hazard Statements**

Causes serious eye irritation  
May damage fertility or the unborn child

**Precautionary Statements****Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Wear eye/face protection

**Response**

IF exposed or concerned: Get medical attention/advice

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention

**Storage**

Store locked up

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition/Information on Ingredients

| Component             | CAS-No    | Weight % |
|-----------------------|-----------|----------|
| Morpholine, 4-acetyl- | 1696-20-4 | 98       |

### 4. First-aid measures

|                                            |                                                                                                                              |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.              |
| <b>Skin Contact</b>                        | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention. |
| <b>Inhalation</b>                          | Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.   |
| <b>Ingestion</b>                           | Clean mouth with water. Get medical attention.                                                                               |
| <b>Most important symptoms and effects</b> | No information available.                                                                                                    |
| <b>Notes to Physician</b>                  | Treat symptomatically                                                                                                        |

### 5. Fire-fighting measures

|                                       |                                                                              |
|---------------------------------------|------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>   | Water spray. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Chemical foam. |
| <b>Unsuitable Extinguishing Media</b> | No information available                                                     |
| <b>Flash Point</b>                    | 122 °C / 251.6 °F                                                            |

|                                         |                          |
|-----------------------------------------|--------------------------|
| <b>Method -</b>                         | No information available |
| <b>Autoignition Temperature</b>         | 320 °C / 608 °F          |
| <b>Explosion Limits</b>                 |                          |
| <b>Upper</b>                            | No data available        |
| <b>Lower</b>                            | No data available        |
| <b>Sensitivity to Mechanical Impact</b> | No information available |
| <b>Sensitivity to Static Discharge</b>  | No information available |

**Specific Hazards Arising from the Chemical**

Keep product and empty container away from heat and sources of ignition.

**Hazardous Combustion Products**

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

**Health**  
2

**Flammability**  
1

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

**Personal Precautions** Ensure adequate ventilation. Use personal protective equipment as required.

**Environmental Precautions** See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Do not let this chemical enter the environment.

## 7. Handling and storage

**Handling** Avoid contact with skin and eyes. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

**Storage** Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Ventilation systems. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protective Equipment**

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and chemical properties**

|                                               |                          |
|-----------------------------------------------|--------------------------|
| <b>Physical State</b>                         | Liquid                   |
| <b>Appearance</b>                             | Light yellow             |
| <b>Odor</b>                                   | vinegar-like             |
| <b>Odor Threshold</b>                         | No information available |
| <b>pH</b>                                     | No information available |
| <b>Melting Point/Range</b>                    | 9 - 10 °C / 48.2 - 50 °F |
| <b>Boiling Point/Range</b>                    | 245.5 °C / 473.9 °F      |
| <b>Flash Point</b>                            | 122 °C / 251.6 °F        |
| <b>Evaporation Rate</b>                       | No information available |
| <b>Flammability (solid,gas)</b>               | Not applicable           |
| <b>Flammability or explosive limits</b>       |                          |
| Upper                                         | No data available        |
| Lower                                         | No data available        |
| <b>Vapor Pressure</b>                         | <0.1 mbar @ 20 °C        |
| <b>Vapor Density</b>                          | 4.45                     |
| <b>Specific Gravity</b>                       | 1.110                    |
| <b>Solubility</b>                             | No information available |
| <b>Partition coefficient; n-octanol/water</b> | No data available        |
| <b>Autoignition Temperature</b>               | 320 °C / 608 °F          |
| <b>Decomposition Temperature</b>              | No information available |
| <b>Viscosity</b>                              | 10.6 mPa s at 20 °C      |
| <b>Molecular Formula</b>                      | C6 H11 N O2              |
| <b>Molecular Weight</b>                       | 129.16                   |

**10. Stability and reactivity**

|                                         |                                                         |
|-----------------------------------------|---------------------------------------------------------|
| <b>Reactive Hazard</b>                  | None known, based on information available              |
| <b>Stability</b>                        | Stable under normal conditions.                         |
| <b>Conditions to Avoid</b>              | Incompatible products.                                  |
| <b>Incompatible Materials</b>           | Strong oxidizing agents                                 |
| <b>Hazardous Decomposition Products</b> | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ) |
| <b>Hazardous Polymerization</b>         | No information available.                               |
| <b>Hazardous Reactions</b>              | None under normal processing.                           |

**11. Toxicological information****Acute Toxicity****Product Information** No acute toxicity information is available for this product**Component Information**

| Component             | LD50 Oral                 | LD50 Dermal                  | LC50 Inhalation |
|-----------------------|---------------------------|------------------------------|-----------------|
| Morpholine, 4-acetyl- | LD50 = 6130 mg/kg ( Rat ) | LD50 = 7500 µL/kg ( Rabbit ) | Not listed      |

**Toxicologically Synergistic Products** No information available**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Irritation** No information available**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component             | CAS-No    | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-----------------------|-----------|------------|------------|------------|------------|------------|
| Morpholine, 4-acetyl- | 1696-20-4 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** No information available

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains. .

| Component             | Freshwater Algae | Freshwater Fish                             | Microtox   | Water Flea |
|-----------------------|------------------|---------------------------------------------|------------|------------|
| Morpholine, 4-acetyl- | Not listed       | LC50: = 6812 mg/L, 96h static (Danio rerio) | Not listed | Not listed |

**Persistence and Degradability** Miscible with water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

**DOT** Not regulated

**TDG** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

## 15. Regulatory information

### United States of America Inventory

| Component             | CAS-No    | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|-----------------------|-----------|------|-----------------------------------------------|-----------------------------|
| Morpholine, 4-acetyl- | 1696-20-4 | X    | ACTIVE                                        | -                           |

### Legend:

**TSCA** - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'- - Not Listed

TSCA 12(b) - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component             | CAS-No    | DSL | NDL | EINECS    | PICCS | ENCS | AICS | IECSC | KECL |
|-----------------------|-----------|-----|-----|-----------|-------|------|------|-------|------|
| Morpholine, 4-acetyl- | 1696-20-4 | X   | -   | 216-913-4 | X     | -    | -    | X     | -    |

**U.S. Federal Regulations**

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Component             | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------------------|---------------|------------|--------------|----------|--------------|
| Morpholine, 4-acetyl- | X             | -          | X            | -        | -            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
 DOT Marine Pollutant N  
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

**Other International Regulations**

Mexico - Grade No information available

**16. Other information**

Prepared By Health, Safety and Environmental Department  
 Email: tech@alfa.com  
 www.alfa.com

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Revision Summary SDS authoring systems update, replaces ChemGes SDS No. 1696-20-4/2.

**Disclaimer**

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 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

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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

**End of SDS**