

## SAFETY DATA SHEET

Creation Date 15-January-2009

Revision Date 08-May-2024

Revision Number 6

### 1. Identification

**Product Name** N-BOC-3-piperidone

**Cat No. :** AC397000000; AC397000050; AC397000250; AC397001000

**CAS-No** 98977-36-7

**Synonyms** N-(tert-Butoxycarbonyl)-3-piperidone

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

##### **Importer/Distributor**

Fisher Scientific  
112 Colonnade Road,  
Ottawa, ON K2E 7L6,  
Canada  
Tel: 1-800-234-7437

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

##### **Manufacturer**

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

##### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11

Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99

**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### Classification

##### **WHMIS 2015 Classification**

Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

|                                                         |            |
|---------------------------------------------------------|------------|
| <b>Skin Corrosion/Irritation</b>                        | Category 2 |
| <b>Serious Eye Damage/Eye Irritation</b>                | Category 2 |
| <b>Specific target organ toxicity (single exposure)</b> | Category 3 |
| Target Organs - Respiratory system.                     |            |

#### Label Elements

##### **Signal Word**

Warning

##### **Hazard Statements**

Causes skin irritation

Causes serious eye irritation

May cause respiratory irritation

**Precautionary Statements****Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Use only outdoors or in a well-ventilated area  
Wear protective gloves/protective clothing/eye protection/face protection

**Response**

IF ON SKIN: Wash with plenty of soap and water  
IF INHALED: Remove person to fresh air and keep comfortable for breathing  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Call a POISON CENTER/ doctor if you feel unwell  
Take off contaminated clothing and wash it before reuse

**Storage**

Store in a well-ventilated place. Keep container tightly closed  
Store locked up

**Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. Composition/Information on Ingredients

| Component                                | CAS-No     | Weight % |
|------------------------------------------|------------|----------|
| tert-Butyl 3-oxopiperidine-1-carboxylate | 98977-36-7 | <100     |

### 4. First-aid measures

|                                                               |                                                                                                                   |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>General Advice</b>                                         | If symptoms persist, call a physician.                                                                            |
| <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 plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| <b>Inhalation</b>                                             | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.      |
| <b>Ingestion</b>                                              | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.             |
| <b>Most important symptoms/effects<br/>Notes to Physician</b> | None reasonably foreseeable.<br>Treat symptomatically                                                             |

### 5. Fire-fighting measures

|                                       |                                                                                       |
|---------------------------------------|---------------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>   | Water spray, carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam. |
| <b>Unsuitable Extinguishing Media</b> | No information available                                                              |

|                                         |                          |
|-----------------------------------------|--------------------------|
| <b>Flash Point</b>                      | No information available |
| <b>Method -</b>                         | No information available |
| <b>Autoignition Temperature</b>         | No information available |
| <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>). Nitrogen oxides (NO<sub>x</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**

|                                             |                                                                                                              |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Personal Precautions</b>                 | Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.            |
| <b>Environmental Precautions</b>            | Should not be released into the environment.                                                                 |
| <b>Methods for Containment and Clean Up</b> | Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal. |

**7. Handling and storage**

|                 |                                                                                                                                                                                     |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling</b> | Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation. |
| <b>Storage.</b> | Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong oxidizing agents. .                                                         |

**8. Exposure controls / personal protection**

|                            |                                                                                                                                               |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Exposure Guidelines</b> | This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|

**Engineering Measures**

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment**

|                        |                                                                           |
|------------------------|---------------------------------------------------------------------------|
| <b>Eye Protection</b>  | Goggles                                                                   |
| <b>Hand Protection</b> | Wear appropriate protective gloves and clothing to prevent skin exposure. |

|                                         |                                               |                             |                       |
|-----------------------------------------|-----------------------------------------------|-----------------------------|-----------------------|
| <b>Glove material</b><br>Nitrile rubber | <b>Breakthrough time</b><br>See manufacturers | <b>Glove thickness</b><br>- | <b>Glove comments</b> |
|-----------------------------------------|-----------------------------------------------|-----------------------------|-----------------------|

|                                   |                 |                        |
|-----------------------------------|-----------------|------------------------|
| Neoprene<br>Natural rubber<br>PVC | recommendations | Splash protection only |
|-----------------------------------|-----------------|------------------------|

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

#### Respiratory Protection

No protective equipment is needed under normal use conditions.

#### Environmental exposure controls

No information available.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

## 9. Physical and chemical properties

|                                        |                              |
|----------------------------------------|------------------------------|
| Physical State                         | Solid                        |
| Appearance                             | No information available     |
| Odor                                   | No information available     |
| Odor Threshold                         | No information available     |
| pH                                     | No information available     |
| Melting Point/Range                    | 37 - 39 °C / 98.6 - 102.2 °F |
| Boiling Point/Range                    | No information available     |
| Flash Point                            | No information available     |
| Evaporation Rate                       | Not applicable               |
| Flammability (solid,gas)               | No information available     |
| Flammability or explosive limits       |                              |
| Upper                                  | No data available            |
| Lower                                  | No data available            |
| Vapor Pressure                         | No information available     |
| Vapor Density                          | Not applicable               |
| Specific Gravity                       | No information available     |
| Solubility                             | No information available     |
| Partition coefficient; n-octanol/water | No data available            |
| Autoignition Temperature               | No information available     |
| Decomposition Temperature              | No information available     |
| Viscosity                              | Not applicable               |
| Molecular Formula                      | C10 H17 N O3                 |
| Molecular Weight                       | 199.24                       |

## 10. Stability and reactivity

|                                  |                                                                                             |
|----------------------------------|---------------------------------------------------------------------------------------------|
| Reactive Hazard                  | None known, based on information available                                                  |
| Stability                        | Stable under normal conditions.                                                             |
| Conditions to Avoid              | Incompatible products. Excess heat. Avoid dust formation.                                   |
| Incompatible Materials           | Strong oxidizing agents,                                                                    |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Nitrogen oxides (NO <sub>x</sub> ) |

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Component Information

**Toxicologically Synergistic Products** No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** Irritating to eyes and skin

**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     |
|------------------------------------------|------------|------------|------------|------------|------------|------------|
| tert-Butyl 3-oxopiperidine-1-carboxylate | 98977-36-7 | 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** Respiratory system

**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

No information available.

| Component                                | Freshwater Algae | Freshwater Fish                       | Microtox   | Water Flea |
|------------------------------------------|------------------|---------------------------------------|------------|------------|
| tert-Butyl 3-oxopiperidine-1-carboxylate | Not listed       | Pimephales promelas: LC50: 0.784 mg/L | Not listed | Not listed |

**Persistence and Degradability** Persistence is unlikely

**Bioaccumulation/ Accumulation** No information available.

**Mobility** No information available.

| Component                                | log Pow |
|------------------------------------------|---------|
| tert-Butyl 3-oxopiperidine-1-carboxylate | 1.575   |

### 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

#### International Inventories

| Component                                | CAS-No     | DSL | NDSL | TSCA | TSCA Inventory notification - Active-Inactive | EINECS | ELINCS | NLP |
|------------------------------------------|------------|-----|------|------|-----------------------------------------------|--------|--------|-----|
| tert-Butyl 3-oxopiperidine-1-carboxylate | 98977-36-7 | -   | -    | -    | -                                             | -      | -      | -   |

| Component                                | CAS-No     | IECSC | KECL | ENCS | ISHL | TCSI | AICS | NZIoC | PICCS |
|------------------------------------------|------------|-------|------|------|------|------|------|-------|-------|
| tert-Butyl 3-oxopiperidine-1-carboxylate | 98977-36-7 | -     | -    | -    | -    | X    | -    | -     | -     |

#### Legend:

X - Listed '-' - Not Listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

#### Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

#### Other International Regulations

**Authorisation/Restrictions according to EU REACH** Not applicable

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

| Component                                | CAS-No     | OECD HPV       | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|------------------------------------------|------------|----------------|------------------------------|---------------------------|--------------------------------------------|
| tert-Butyl 3-oxopiperidine-1-carboxylate | 98977-36-7 | Not applicable | Not applicable               | Not applicable            | Not applicable                             |

| Component | CAS-No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|-----------|--------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------|------------------------------------|
|           |        |                                                                                           |                                                                                          |                            |                                    |

|                                             |            |                |                |                |                |
|---------------------------------------------|------------|----------------|----------------|----------------|----------------|
| tert-Butyl<br>3-oxopiperidine-1-carboxylate | 98977-36-7 | Not applicable | Not applicable | Not applicable | Not applicable |
|---------------------------------------------|------------|----------------|----------------|----------------|----------------|

## 16. Other information

|                         |                                                                                                                                                                                    |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Prepared By</b>      | Regulatory Affairs<br>Thermo Fisher Scientific<br>Email: EMSDS.RA@thermofisher.com                                                                                                 |
| <b>Creation Date</b>    | 15-January-2009                                                                                                                                                                    |
| <b>Revision Date</b>    | 08-May-2024                                                                                                                                                                        |
| <b>Print Date</b>       | 08-May-2024                                                                                                                                                                        |
| <b>Revision Summary</b> | This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals. |

### 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 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**