

Version: 4.0

Revision date: 01/01/2025

Product Name: 5-NORBORNENE-2-CARBALDEHYDE

Section 1: Identification of the Substance/Mixture and of the Company

Product identifier

Product Name 5-NORBORNENE-2-CARBALDEHYDE

Product Number 772-3067

Relevant identified use of the substance/mixture and uses advised against

Use of Substance/Mixture Flavor agent.

Details of supplier of the SDS

Company O'Laughlin Corporation Limited

Address Suite 903, The Chinese Bank Building, 61-65 Des Voeux Road, Central, Hong Kong

Telephone (852) 2527 1031

Fax (852) 2529 0231

Website www.olaughlinco.com

Emergency telephone number

(852) 2527 1031

Section 2: Hazards Identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids, Category 3, H226

Labelling elements

Labelling according to Regulation (EC) No 1272/2008



Pictogram

Signal word Warning

Hazard Statement

H226 - Flammable liquid and vapour.

Precautionary statement

Prevention

P210 - Keep away from heat/ sparks/ open flames/ hot surfaces. – No smoking.

P233 - Keep container tightly closed.

P240 - Ground/ bond container and receiving equipment.

P241 - Use explosion-proof electrical/ ventilating/ lighting/ .../ equipment.

P242 - Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.



Safety Data Sheet

Version: 4.0

Revision date: 01/01/2025

Product Name: 5-NORBORNENE-2-CARBALDEHYDE

P370+P378 - In case of fire: Use extinguishing media listed in Section 5 of the SDS for extinction.

Storage

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

Disposal

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

Hazards Not Otherwise Classified No information available.

Supplemental Hazard Information No information available.

Section 3: Composition/information on ingredients

Substance Name	5-NORBORNENE-2-CARBALDEHYDE
CAS Number	5453-80-5
EC Number	226-698-9
% (w/w)	100

Remarks: The rest unspecified ingredients are impurities, and they are not hazard.

Section 4: First Aid Measures

Description of first aid measures

Skin contact Wash off with soap and plenty of water. Consult a physician.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Ingestion Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Inhalation If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

General information

Consult a physician. Show this safety data sheet to the doctor in attendance.

Indication of any immediate medical and special treatment needed: No information available.

Section 5: Fire-fighting Measures

Flammable properties

Flash point > 93°C

Firefighting

Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguish media Do not use a solid water stream as it may scatter and spread fire.

Protective equipment and precautions for firefighters

Specific hazards during firefighting Carbon oxides.

Specific protective equipment for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighter's protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full-face piece operated in the positive pressure demand mode when fighting fires.



Safety Data Sheet

Version: 4.0

Revision date: 01/01/2025

Specific methods

General fire hazards

Product Name: 5-NORBORNENE-2-CARBALDEHYDE

Use water spray to cool unopened containers

Static charges generated by emptying package in or near flammable vapor may cause flash fire.

Section 6: Accidental Release Measures

Personal precautions	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.
Environmental precautions	Do not let product enter drains.
Methods for cleaning up	Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

Section 7: Handling and Storage

Storage	Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Handling	Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Normal measures for preventive fire protection.
Specific end use(s)	No information available.

Section 8: Exposure Controls/Personal Protection

Control parameters: Components with workplace control parameters.

Exposure controls

Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
-----------------------------------------	----------------------------------------------------------------------------------------------------------------------------

Personal protective equipment

Eye/face protection	Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Hand protection	Type of gloves recommended: Butyl rubber. Minimum breakthrough time/ gloves: 480 min. Minimum thickness/ gloves 0.11 mm.
Body protection	Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Thermal hazards	Wear suitable protective clothing to prevent heat.



Safety Data Sheet

Version: 4.0

Revision date: 01/01/2025

Product Name: 5-NORBORNENE-2-CARBALDEHYDE

Environmental exposure controls	Avoid discharge into the environment. According to local regulations, Federal and official regulations.
Industrial hygiene:	When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/ or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Section 9: Physical and Chemical Properties

Appearance	Colorless to yellow liquid
Flash point	> 93 °C
Specific Gravity	1.022 - 1.030 at 25 °C
Refractive Index	1.486 - 1.492 at 20 °C
Solubility (ies)	No information available.
Auto ignition temperature	No information available.
Viscosity	No information available.

Section 10: Stability and Reactivity

Reactivity	Stable under normal temperatures and pressures.
Chemical stability	Stable at room temperature in closed containers under normal storage and handling conditions.
Possibility of hazardous reactions	No hazardous reactions known.
Conditions to avoid	No information available.
Incompatible materials	Strong oxidizing agents, strong bases, mineral acids.
Hazardous decomposition products	No information available.

Section 11: Toxicological Information

Information on likely routes of exposure:

Inhalation	No information available.
Skin contact	No information available.
Eye contact	No information available.
Ingestion	No information available.

Information on toxicological effects:

Oral/Parenteral Toxicity	No information available.
Dermal Toxicity	No information available.
Inhalation Toxicity	No information available.
Germ cell mutagenicity	No information available.

Carcinogenicity

OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is



Safety Data Sheet

Version: 4.0

Revision date: 01/01/2025

Product Name: 5-NORBORNENE-2-CARBALDEHYDE

NTP

identified as a carcinogen or potential carcinogen by ACGIH.

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

No information available.

TOST - single exposure

No information available.

TOST - repeated exposure

No information available.

Aspiration hazard

No information available.

Section 12: Ecological Information

Eco toxicity

No information available.

Persistence and degradability

No information available.

Bio accumulative potential

No information available.

Mobility in soil

No information available.

Results of PBT&vPvB assessment

No information available.

Other adverse effects

No information available.

Section 13: Disposal Considerations

Disposal instructions

Do not discharge into drains, water course or onto the ground. Do not allow this material to drain into sewers/ water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/ container in accordance with local/ regional/ national/ international regulations.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous water code

No information available.

Waste from residues/unused products

Empty containers or liner may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Section 14: Transport Information

	ADN	ADR	RID	DOT BULK	DOT NON-BULK	IATA	IMDG
UN Number	1989						
SHIPPING NAME	ALDEHYDES, N.O.S. (BICYCLO[2.2.1]HEPT-5-ENE-2-CARBALDEHYDE)						
Hazard Class	3						
Packing group	III						
Environmental Hazards	No						

Section 15: Regulatory Information

US federal regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.



Safety Data Sheet

Version: 4.0

Revision date: 01/01/2025

Product Name: 5-NORBORNENE-2-CARBALDEHYDE

CERCLA Hazards Substance List (40 CFR 302.4)	Not listed
OSHA Specifically Regulated Substance (29 CFR 1910.1001-1050)	Not listed
SARA 302 Extremely hazardous substances	Not listed
SARA 311/312 Hazard Chemical	Not listed
SARA 313 (TRI reporting)	Not regulated

Other federal regulations

CAA Section 112 Hazardous Air Pollutant List	Not regulated
CAA Section 112 (r) Accidental Release Prevention (40 CFR 68.130)	Not regulated
Safe Drinking Water Act (SDWA)	Not regulated

US State regulations

US. Massachusetts RTK-Substance List	Not listed
US. New Jersey Worker and Community Right-to-Know Act	Not regulated
US. Pennsylvania Worker and Community Right-to-Know Law	Not listed
US. Rhode Island RTK	Not regulated
US. California Proposition 65	Not listed

International Inventories

Country or region	Inventory name	On inventory (yes/no)
Australia	AICS	Yes
Canada	DSL	Yes
Canada	NDSL	No
China	IECSC	Yes
Europe	EINECS	Yes
Europe	ELINCS	No
Japan	ENCS	Yes
Korea	ECL	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	PICCS	Yes
US and Puerto Rico	TSCA	Yes

Section 16: Other Information

Revision Information

Date of this version: Jan. 1, 2025

Declaration to Reader

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be



Safety Data Sheet

Version: 4.0

Revision date: 01/01/2025

Product Name: 5-NORBORNENE-2-CARBALDEHYDE

beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. O'Laughlin Corporation Limited, shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.