

Acrolein, technical grade

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
SDS ID: 2315101
Issue date: 1/27/2025 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: Acrolein, technical grade
CAS-No.	: 107-02-8
Product code	: 2315-1-01
Formula	: C3H4O
Synonyms	: 2-Propenal

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Laboratory chemicals Manufacture of substances Scientific research and development
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1.3. Supplier

SynQuest Laboratories, Inc.
P.O. Box 309
Alachua, FL, Alachua, 32615
United States of America
T (386) 462-0788 - F (386) 462-7097
info@synquestlabs.com - www.synquestlabs.com

1.4. Emergency telephone number

Emergency number	: (844) 523-4086 (3E Company - Account 10069)
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 3	H226	Flammable liquid and vapor
Acute toxicity (oral) Category 1	H300	Fatal if swallowed
Acute toxicity (dermal) Category 3	H311	Toxic in contact with skin
Acute toxicity (inhalation) Category 1	H330	Fatal if inhaled
Acute toxicity (inhalation:vapor) Category 1	H330	Fatal if inhaled
Skin corrosion/irritation Category 1B	H314	Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Carcinogenicity Category 1B	H350	May cause cancer
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation
Hazardous to the aquatic environment – Acute Hazard Category 1	H400	Very toxic to aquatic life
Hazardous to the aquatic environment – Chronic Hazard Category 1	H410	Very toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

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2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H226 - Flammable liquid and vapor
H300+H330 - Fatal if swallowed or if inhaled
H311 - Toxic in contact with skin
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H350 - May cause cancer
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P264 - Wash 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.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P284 - In case of inadequate ventilation wear respiratory protection
P301+P310 - If swallowed: Immediately call a poison center or doctor.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P302+P352 - If on skin: Wash with plenty of soap and water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P310 - Immediately call a POISON CENTER or doctor/ physician
P320 - Specific treatment is urgent (see supplemental first aid instructions on this label)
P321 - Specific treatment (see supplemental first aid instructions on this label)
P322 - Specific treatment (see supplemental first aid instruction on this label)
P330 - Rinse mouth.
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : Corrosive to respiratory system.

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2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS US classification
Acrolein, technical grade (Main constituent)	CAS-No.: 107-02-8	≤ 100	Flam. Liq. 3, H226 Acute Tox. 1 (Oral), H300 Acute Tox. 3 (Dermal), H311 Acute Tox. 1 (Inhalation), H330 Acute Tox. 1 (Inhalation:vapour), H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Carc. 1B, H350 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Move the affected personnel away from the contaminated area.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Get immediate medical advice/attention.
First-aid measures after skin contact	: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Get immediate medical advice/attention.
First-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
First-aid measures after ingestion	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get immediate medical advice/attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects	: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.
Symptoms/effects after inhalation	: Material is destructive to tissue of the mucuous membranes and upper respiratory tract. Cough, shortness of breath, headache, nausea.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Dry powder. Use extinguishing media appropriate for surrounding fire.

5.2. Specific hazards arising from the chemical

Fire hazard : Thermal decomposition generates: Carbon oxides.
Explosion hazard : Risk of explosion if heated under confinement. Use water spray or fog for cooling exposed containers. May form flammable/explosive vapor-air mixture.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
Protection during firefighting : Wear gas tight chemically protective clothing in combination with self contained breathing apparatus. For further information refer to section 8: "Exposure controls/personal protection".

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate unnecessary personnel. Ensure adequate air ventilation. Do not breathe gas, fumes, vapor or spray.

6.1.1. For non-emergency personnel

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level. Consider the risk of potentially explosive atmospheres. Eliminate every possible source of ignition.

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Stop leak if safe to do so. Dike for recovery or absorb with appropriate material.
Methods for cleaning up : Take up large spills with pump or vacuum and finish with dry chemical absorbent. Use explosion-proof equipment. Take up small spills with dry chemical absorbent. Sweep or shovel spills into appropriate container for disposal. Ventilate area.
Other information : For disposal of solid materials or residues refer to section 13 : "Disposal considerations".

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.

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Precautions for safe handling	: Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the work station. Do not breathe fumes, mist, spray, vapors. Wear personal protective equipment. Avoid contact with skin and eyes. Keep away from ignition sources (including static discharges). Proper grounding procedures to avoid static electricity should be followed. Use only non-sparking tools.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Comply with applicable regulations.
Storage conditions	: Keep container closed when not in use. Keep away from ignition sources. Air sensitive. Moisture sensitive. Keep contents under inert gas. Direct sunlight.
Incompatible materials	: Refer to Section 10 on Incompatible Materials.
Storage temperature	: -25 – -10 °C Use explosion proof refrigerator
Storage area	: Store in dry, well-ventilated area. Light sensitive.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Acrolein, technical grade (107-02-8)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL C	0.1 ppm
ACGIH chemical category	Not Classifiable as a Human Carcinogen, Skin - potential significant contribution to overall exposure by the cutaneous route
USA - OSHA - Occupational Exposure Limits	
Local name	Acrolein
OSHA PEL TWA	0.25 mg/m ³
	0.1 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
IDLH	2 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	0.25 mg/m ³
	0.1 ppm
NIOSH REL STEL	0.8 mg/m ³
	0.3 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
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8.3. Individual protection measures/Personal protective equipment

Hand protection:
protective gloves. 29 CFR 1910.138: Hand Protection

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Eye protection:

Chemical goggles or safety glasses. Face shield. 29 CFR 1910.133: Eye and Face Protection

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of inadequate ventilation wear respiratory protection. 29 CFR 1910.134: Respiratory Protection

Personal protective equipment symbol(s):



Other information:

Safety shoes. 29 CFR 1910.136: Foot Protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Colorless liquid.
Color	: Colorless
Odor	: Unpleasant choking
Odor threshold	: No data available
pH	: No data available
Melting point	: -87 °C
Freezing point	: No data available
Boiling point	: 53 °C
Flash point	: -29 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 4 psia (@ 20 °C)
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.839 g/ml (@ 25 °C)
Molecular mass	: 56.064 g/mol
Solubility	: Water: 210 g/l (at 20 °C)
Partition coefficient n-octanol/water (Log Pow)	: -0.01
Auto-ignition temperature	: 220 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

Refractive index : 1.403 (@ 20 °C)

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SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

The product is stable at normal handling and storage conditions. Stabilized product: Hydroquinone.

10.3. Possibility of hazardous reactions

May polymerize.

10.4. Conditions to avoid

Keep away from heat, sparks and flame.

10.5. Incompatible materials

Bases. Oxidizing agents. Oxygen. Strong acids.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products in case of fire, see Section 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Fatal if swallowed.
Acute toxicity (dermal) : Toxic in contact with skin.
Acute toxicity (inhalation) : Fatal if inhaled. Inhalation:vapor: Fatal if inhaled.

Acrolein, technical grade (107-02-8)	
LD50 oral rat	26 mg/kg (Source: NLM_CIP)
LD50 dermal rabbit	164 mg/kg (Source: JAPAN_GHS)
LC50 Inhalation - Rat	0.018 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : May cause cancer.

Acrolein, technical grade (107-02-8)	
IARC group	2A - Probably carcinogenic to humans
In OSHA Hazard Communication Carcinogen list	Yes

Reproductive toxicity : Not classified
STOT-single exposure : May cause respiratory irritation.
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : No data available
Symptoms/effects : The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.
Symptoms/effects after inhalation : Material is destructive to tissue of the mucuous membranes and upper respiratory tract. Cough, shortness of breath, headache, nausea.

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SECTION 12: Ecological information

12.1. Toxicity

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LC50 - Fish [1]	0.008 – 0.025 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through] Source: EPA)
EC50 - Crustacea [1]	0.043 – 0.062 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	0.045 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static] Source: EPA)

12.2. Persistence and degradability

Acrolein, technical grade (107-02-8)

Persistence and degradability	Rapidly degradable
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12.3. Bioaccumulative potential

Acrolein, technical grade (107-02-8)

BCF - Fish [1]	(no bioaccumulation expected)
Partition coefficient n-octanol/water (Log Pow)	-0.01

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste)	: U.S. - RCRA (Resource Conservation Recovery Act) - P Series Wastes - Acutely Toxic Wastes. U.S. - RCRA (Resource Conservation Recovery Act) - Basis for Listing - Appendix VII. U.S. - RCRA (Resource Conservation Recovery Act) - TSD Facilities Ground Water Monitoring. U.S. - RCRA (Resource Conservation Recovery Act) - Hazardous Constituents - Appendix VIII to 40 CFR 261. U.S. - RCRA (Resource Conservation Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards. U.S. - RCRA (Resource Conservation Recovery Act) - List for Hazardous Constituents.
Waste treatment methods	: Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber.
Product/Packaging disposal recommendations	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information	: Recycle the material as far as possible.

SECTION 14: Transport information

14.1. UN number

DOT NA No	: UN1092
UN-No. (TDG)	: UN1092
UN-No. (IMDG)	: 1092
UN-No. (IATA)	: 1092

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14.2. UN proper shipping name

Proper Shipping Name (DOT) : Acrolein, stabilized
Proper Shipping Name (TDG) : ACROLEIN, STABILIZED
Proper Shipping Name (IMDG) : ACROLEIN, STABILIZED
Proper Shipping Name (IATA) : Acrolein, stabilized

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 6.1 (3)
Hazard labels (DOT) : 6.1, 3



TDG

Transport hazard class(es) (TDG) : 6.1 (3)
Hazard labels (TDG) : 6.1, 3



IMDG

Transport hazard class(es) (IMDG) : 6.1 (3)
Hazard labels (IMDG) : 6.1, 3



IATA

Transport hazard class(es) (IATA) : 6.1 (3)



14.4. Packing group

Packing group (DOT) : I
Packing group (TDG) : I
Packing group (IMDG) : I
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes



Other information : No supplementary information available.

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14.6. Special precautions for user

DOT

UN-No.(DOT)

: UN1092

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- DOT Special Provisions (49 CFR 172.102) : 1 - This material is poisonous by inhalation (see 171.8 of this subchapter) in Hazard Zone A (see 173.116(a) or 173.133(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter.
- 380 - For transportation by private carrier in a motor carrier only, this material is not subject to the segregation requirements of §177.848(d) of this subchapter under the following conditions:
- The material is packaged in a DOT Specification 4BW240 cylinder, or in a DOT-51 portable tank.
 - The material may only be loaded with Class 3, Class 8, and Division 4.1 materials in Packing Group II or III.
 - The motor carrier must maintain a satisfactory safety rating as prescribed in 49 CFR part 385.387 - When materials are stabilized by temperature control, the provisions of §173.21(f) of this subchapter apply. When chemical stabilization is employed, the person offering the material for transport shall ensure that the level of stabilization is sufficient to prevent the material as packaged from dangerous polymerization at 50 °C (122 °F). If chemical stabilization becomes ineffective at lower temperatures within the anticipated duration of transport, temperature control is required and is forbidden by aircraft. In making this determination factors to be taken into consideration include, but are not limited to, the capacity and geometry of the packaging and the effect of any insulation present, the temperature of the material when offered for transport, the duration of the journey, and the ambient temperature conditions typically encountered in the journey (considering also the season of year), the effectiveness and other properties of the stabilizer employed, applicable operational controls imposed by regulation (e.g.requirements to protect from sources of heat, including other cargo carried at a temperature above ambient) and any other relevant factors. The provisions of this special provision will be effective until January 2, 2019, unless we terminate them earlier or extend them beyond that date by notice of a final rule in the Federal Register.
- B9 - Bottom outlets are not authorized.
- B14 - Each bulk packaging, except a tank car or a multi-unit-tank car tank, must be insulated with an insulating material so that the overall thermal conductance at 15.5 C (60 F) is no more than 1.5333 kilojoules per hour per square meter per degree Celsius (0.075 Btu per hour per square foot per degree Fahrenheit) temperature differential. Insulating materials must not promote corrosion to steel when wet.
- B30 - MC 312, MC 330, MC 331 and DOT 412 cargo tanks and DOT 51 portable tanks must be made of stainless steel, except that steel other than stainless steel may be used in accordance with the provisions of 173.24b(b) of this subchapter. Thickness of stainless steel for tank shell and heads for cargo tanks and portable tanks must be the greater of 7.62 mm (0.300 inch) or the thickness required for a tank with a design pressure at least equal to 1.5 times the vapor pressure of the lading at 46 C (115 F). In addition, MC 312 and DOT 412 cargo tank motor vehicles must: a. Be ASME Code (U) stamped for 100% radiography of all pressure-retaining welds; b. Have accident damage protection which conforms with 178.3458 of this subchapter; c. Have a MAWP or design pressure of at least 87 psig; and d. Have a bolted man way cover.
- B42 - Tank cars must have a test pressure of 34.47 Bar (500 psig) or greater and conform to Class 105J. Each tank car must have a reclosing pressure relief device having a start-to-discharge pressure of 10.34 Bar (150 psig). The tank car specification may be marked to indicate a test pressure of 13.79 Bar (200 psig).
- B77 - Other packaging are authorized when approved by the Associate Administrator.
- T22 - 10 10 mm Prohibited 178.275(g)(3).
- TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: t_r is the maximum mean bulk temperature during transport, t_f is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (t_f) and the maximum mean bulk temperature during transportation (t_r) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d_{15} and d_{50} are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
- TP7 - The vapor space must be purged of air by nitrogen or other means.

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	TP13 - Self-contained breathing apparatus must be provided when this hazardous material is transported by sea.
	TP38 - Each portable tank must be insulated with an insulating material so that the overall thermal conductance at 15.5 C (60 F) is no more than 1.5333 kilojoules per hour per square meter per degree Celsius (0.075 Btu per hour per square foot per degree Fahrenheit) temperature differential. Insulating materials may not promote corrosion to steel when wet.
	TP44 - Each portable tank must be made of stainless steel, except that steel other than stainless steel may be used in accordance with the provisions of 173.24b(b) of this subchapter. Thickness of stainless steel for tank shell and heads must be the greater of 7.62 mm (0.300 inch) or the thickness required for a portable tank with a design pressure at least equal to 1.5 times the vapor pressure of the hazardous material at 46 C (115 F).
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 226
DOT Packaging Bulk (49 CFR 173.xxx)	: 244
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: Forbidden
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: Forbidden
DOT Vessel Stowage Location	: D - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.
DOT Vessel Stowage Other	: 25 - Shade from radiant heat,40 - Stow "clear of living quarters"
TDG	
UN-No. (TDG)	: UN1092
TDG Special Provisions	: 23 - 1) A consignor of these dangerous goods must include on a shipping document, after the classification of the dangerous goods, the words "toxic by inhalation" or "toxic – inhalation hazard" or "toxique par inhalation" or "toxicité par inhalation" if the dangerous goods meet the criteria for inclusion in Class 6.1, Packing Group I, due to inhalation toxicity. For example: CYANIDE SOLUTION, N.O.S, Class 6.1, UN1935, PG I, toxic by inhalation 2) A person must not handle, offer for transport or transport these dangerous goods by passenger carrying road vehicle, passenger carrying railway vehicle or passenger carrying ship if they meet the criteria for inclusion in Class 6.1, Packing Group I, due to inhalation toxicity. 3) This special provision does not apply to a person who transports these dangerous goods in accordance with the exemption in section 1.15 of Part 1, Coming Into Force, Repeal, Interpretation, General Provisions and Special Cases,155 - (1)If these dangerous goods are stabilized by temperature control, they must be offered for transport, handled and transported in accordance with section 7.1.6 of the UN Recommendations. (2)If chemical stabilization is employed, the person offering the means of containment for transport must ensure that the level of stabilization will prevent a dangerous polymerization of the dangerous goods at a bulk mean temperature of 50°C in the case of a small means of containment or an intermediate bulk container (IBC) or, in the case of a large means of containment that is not an IBC, at a bulk mean temperature of 45°C. (3)If chemical stabilization may become ineffective at lower temperatures within the anticipated duration of transport, temperature control is required. In determining whether chemical stabilization may become ineffective at lower temperatures, the person offering the means of containment for transport must take at least the following the factors into consideration: (a)the capacity and geometry of the means of containment and the effect of any insulation;(b)the temperature of the dangerous goods when offered for transport; (c)the duration of the transport and the seasonal ambient temperature conditions typically encountered during transport; and (d)the effectiveness and other physical or chemical properties of the stabilizer employed. SOR/2017-137
ERAP Index	: 1000
Explosive Limit and Limited Quantity Index	: 0
Excepted quantities (TDG)	: E0
Passenger Carrying Ship Index	: Forbidden
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: Forbidden
Emergency Response Guide (ERG) Number	: 131P

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IMDG	
Special provision (IMDG)	: 354, 386
Limited quantities (IMDG)	: 0
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P601
Tank instructions (IMDG)	: T22
Tank special provisions (IMDG)	: TP2, TP7, TP13, TP35
EmS-No. (Fire)	: F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage)	: S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS
Stowage category (IMDG)	: D
Stowage and handling (IMDG)	: SW1, SW2
Flash point (IMDG)	: -26°C c.c.
Properties and observations (IMDG)	: Colourless or yellow liquid with a most irritating odour. Flashpoint: -26°C c.c. Explosive limits: 2.8% to 31% Boiling point: 52°C. Miscible with water. Highly toxic if swallowed, by skin contact or by inhalation.

IATA	
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: Forbidden
PCA max net quantity (IATA)	: Forbidden
CAO packing instructions (IATA)	: Forbidden
CAO max net quantity (IATA)	: Forbidden
Special provision (IATA)	: A209
ERG code (IATA)	: 6H

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Acrolein, technical grade (107-02-8)	
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	1 lb
Section 302 EPCRA Reportable Quantity (RQ)	1 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Acrolein, technical grade	CAS-No. 107-02-8	100%
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Acrolein, technical grade

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15.2. International regulations

CANADA

Acrolein, technical grade (107-02-8)	
Listed on the Canadian DSL (Domestic Substances List)	
Toxic Substance (CEPA – Schedule I)	Yes

EU-Regulations

Acrolein, technical grade (107-02-8)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Acrolein, technical grade (107-02-8)
Listed on IARC (International Agency for Research on Cancer) Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the Japanese ENCS (Existing New Chemical Substances) inventory Listed on KECL/KECI (Korean Existing Chemicals Inventory) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Japanese Poisonous and Deleterious Substances Control Law Japanese Pollutant Release and Transfer Register Law (PRTR Law) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on the Japanese ISHL (Industrial Safety and Health Law) Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on the TCSI (Taiwan Chemical Substance Inventory) Listed on the NCI (Vietnam - National Chemical Inventory) Listed on TECI (Thailand Existing Chemicals Inventory)

15.3. US State regulations

Acrolein, technical grade (107-02-8)	
State or local regulations	U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

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Full text of H-phrases	
H226	Flammable liquid and vapor
H300	Fatal if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled

Acrolein, technical grade

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Full text of H-phrases	
H335	May cause respiratory irritation
H350	May cause cancer
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard

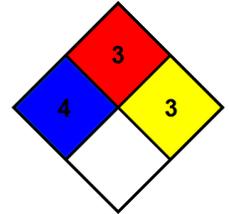
: 4 - Materials that, under emergency conditions, can be lethal.

NFPA fire hazard

: 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

NFPA reactivity

: 3 - Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction but that require a strong initiating source or must be heated under confinement before initiation.



Hazard Rating

Health

: 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures

Flammability

: 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB IC)

Physical

: 3 Serious Hazard - Materials that may form explosive mixtures with water and are capable of detonation or explosive reaction in the presence of a strong initiating source. Materials may polymerize, decompose, self-react, or undergo other chemical change at normal temperature and pressure with moderate risk of explosion

Safety Data Sheet (SDS), USA

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 offered solely for your consideration, investigation, and verification. It does not represent any guarantee of the properties of the product nor that the hazard precautions or procedures described are the only ones which exist. SynQuest shall not be held liable or any damage resulting from handling or from contact with the above product.