

SAFETY DATA SHEET

according to the OSHA
Hazard Communication Standard

Version 6.15
Revision Date 05/30/2026
Print Date 05/31/2026

SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : *N*-(Isobutoxymethyl)acrylamide

Product Number : 436534
Brand : Aldrich
CAS-No. : 16669-59-3

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-
527-3887 CHEMTREC (International) 24
Hours/day; 7 Days/week

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Flammable liquids	: Category 4
Acute toxicity (Oral)	: Category 4
Acute toxicity (Dermal)	: Category 4
Skin irritation	: Category 2
Serious eye damage	: Category 1
Skin sensitisation	: Category 1
Germ cell mutagenicity	: Category 1B
Carcinogenicity	: Category 1B
Reproductive toxicity	: Category 2
Specific target organ toxicity - repeated exposure	: Category 1
Specific target organ toxicity - repeated exposure (Oral)	: Category 1 (Peripheral nervous system)

Other hazards

None known.

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements :

- H227 Combustible liquid.
- H302 + H312 Harmful if swallowed or in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H340 May cause genetic defects.
- H350 May cause cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H372 Causes damage to organs (Peripheral nervous system) through prolonged or repeated exposure if swallowed.

Supplemental Hazard : Corrosive to the respiratory tract.
Statements

Precautionary statements : **Prevention:**

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.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 Store in a well-ventilated place.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

CAS-No. : 16669-59-3

Components

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Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
N-[(2-Methylpropoxy)methyl]acrylamide	16669-59-3*	$\geq 65 - \leq 85$	TSC
acrylamide	79-06-1*	$\geq 3 - \leq 7$	TSC
N-(Hydroxymethyl)acrylamide	924-42-5*	$\geq 3 - \leq 7$	TSC
iso-butanol	78-83-1*	$\geq 3 - \leq 7$	TSC
N,N'-methylenediacrylamide	110-26-9*	$\geq 1 - \leq 5$	TSC
formaldehyde	50-00-0*	$\geq 0.1 - \leq 1$	TSC

* Indicates that the identifier is a CAS No.

TSC- the actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	: Show this safety data sheet to the doctor in attendance.
If inhaled	: After inhalation: fresh air. Call in physician.
In case of skin contact	: In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
In case of eye contact	: After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
If swallowed	: After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
Most important symptoms and effects, both acute and delayed	: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Protection of first-aiders	: For personal protection see section 8.
Notes to physician	: No data available

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing : Foam

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media	Carbon dioxide (CO ₂) Dry powder
Unsuitable extinguishing media	: For this substance/mixture no limitations of extinguishing agents are given.
Specific hazards during fire fighting	: Combustible.
	Vapours are heavier than air and may spread along floors.
	Forms explosive mixtures with air on intense heating.
	Development of hazardous combustion gases or vapours possible in the event of fire.
Hazardous combustion products	: Carbon oxides Nitrogen oxides (NO _x)
Specific extinguishing methods	: No data available
Further information	: Remove container from danger zone and cool with water. Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for fire-fighters	: Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation.
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Keep away from heat and sources of ignition.
Evacuate the danger area, observe emergency procedures, consult an expert.
Advice for emergency responders:
For personal protection see section 8.

- Environmental precautions : Do not let product enter drains.
- Methods and materials for containment and cleaning up : Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10).
Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

- Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition.
Take precautionary measures against static discharge.
- Advice on safe handling : Work under hood. Do not inhale substance/mixture.
Avoid generation of vapours/aerosols.
- Further information on storage conditions : Tightly closed.
Keep in a well-ventilated place.
Keep locked up or in an area accessible only to qualified or authorised persons.
- Storage class : 6.1C, Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects
- Recommended storage temperature : Recommended storage temperature see product label.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
acrylamide	79-06-1	TWA (Inhalable fraction)	0.03 mg/m ³	ACGIH

		and vapor)		
		TWA	0.03 mg/m3	NIOSH REL
		TWA	0.3 mg/m3	OSHA Z-1
iso-butanol	78-83-1	TWA	50 ppm	ACGIH
		TWA	50 ppm 150 mg/m3	NIOSH REL
		TWA	100 ppm 300 mg/m3	OSHA Z-1
		TWA	2 ppm	US WEEL
		STEL	5 ppm	US WEEL
formaldehyde	50-00-0	TWA	0.1 ppm	ACGIH
		STEL	0.3 ppm	ACGIH
		TWA	0.016 ppm	NIOSH REL
		C	0.1 ppm	NIOSH REL
		PEL	0.75 ppm	OSHA CARC
		STEL	2 ppm	OSHA CARC
		TWA	0.016 ppm (Formaldehyde)	NIOSH REL
		C	0.1 ppm (Formaldehyde)	NIOSH REL

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
acrylamide	79-06-1	N-(2-Carbamoyl ethyl)valine (CbEV)	In blood	Not critical	500 picomoles per gram Hemoglobin	ACGIH BEI
		S-(2-Carbamoyl ethyl)mercapturic acid (AAMA)	Urine	End of shift	800 µg/g creatinine	ACGIH BEI

Engineering measures : No data available

Personal protective equipment

Respiratory protection : required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection

system.

Recommended Filter : Filter type ABEK
type:

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Hand protection

Remarks : required

Eye protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Tightly fitting safety goggles

Skin and body protection : protective clothing

Hygiene measures : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : colourless

Odor : No data available

Odor Threshold : No data available
pH : No data available

Melting point : No data available

Boiling point/boiling range : 226 °F / 108 °C
Method: lit.

Flash point : 174 °F / 79 °C
Method: closed cup

Evaporation rate : No data available

Flammability (solid, gas)	: No data available
Flammability (liquids)	: No data available
Burning rate	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapor pressure	: 27 hPa (90 °F / 32 °C)
Relative vapour density	: No data available
Relative density	: No data available
Density	: 0.97 g/cm ³ (77 °F / 25 °C) Method: lit.
Water solubility	: No data available
Partition coefficient: n- octanol/water	: No data available
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Flow time	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Molecular weight	: 157.21 g/mol
Particle characteristics Particle size	: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

Chemical stability : The product is chemically stable under standard ambient conditions (room temperature) .

Contains the following stabiliser(s): : hydroquinone monomethyl ether (200 ppm)

Possibility of hazardous reactions : No data available

Conditions to avoid : Strong heating.

Incompatible materials : Strong oxidizing agents
Mineral acids
Peroxides
Iron and iron salts.
Copper
Aluminum
Brass
Free radical initiators
acids
Bases
Polymerizing initiators

Hazardous decomposition products : In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Acute toxicity estimate Oral - 416.33 mg/kg

(Calculation method)

LD50 Oral - Mouse - 645 mg/kg (N-[(2-Methylpropoxy)methyl]acrylamide)

Acute toxicity estimate Inhalation - 4 h - > 20 mg/l - vapour(Calculation method)

Inhalation: No data available

Acute toxicity estimate Dermal - 1,217 mg/kg

(Calculation method)

LD50 Dermal - 1,100 mg/kg (N-[(2-Methylpropoxy)methyl]acrylamide)

No data available

Skin corrosion/irritation

Skin - Rabbit (N-[(2-Methylpropoxy)methyl]acrylamide)

Serious eye damage/eye irritation

Eyes - Rabbit (N-[(2-Methylpropoxy)methyl]acrylamide)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

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Carcinogenicity

IARC: 1 - Group 1: Carcinogenic to humans (formaldehyde)
IARC: 2A - Group 2A: Probably carcinogenic to humans (acrylamide)
IARC: 2B - Group 2B: Possibly carcinogenic to humans (N-(Hydroxymethyl)acrylamide)
NTP: Known - Known to be human carcinogen (formaldehyde)
NTP: RAHC - Reasonably anticipated to be a human carcinogen (acrylamide)
OSHA: OSHA specifically regulated carcinogen (formaldehyde)

Reproductive toxicity

No data available
No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available (N-[(2-Methylpropoxy)methyl]acrylamide)

11.2 Additional Information

RTECS: AS3630000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (N-[(2-Methylpropoxy)methyl]acrylamide)

Stomach - Irregularities - Based on Human Evidence

Liver - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence
(N-[(2-Methylpropoxy)methyl]acrylamide)

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

N-[(2-Methylpropoxy)methyl]acrylamide:

Toxicity to fish : Remarks: No data available

acrylamide:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 98 mg/l
End point: mortality
Exposure time: 48 h
Test Type: flow-through test
Method: US-EPA
GLP: yes

Toxicity to algae/aquatic plants : NOEC (*Pseudokirchneriella subcapitata*): 56 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
 GLP: yes

Toxicity to fish (Chronic toxicity) : NOEC (*Cyprinus carpio* (Carp)): 5 mg/l
 End point: mortality
 Exposure time: 28 d
 Remarks: (ECHA)

Toxicity to microorganisms : EC50 (*Photobacterium phosphoreum*): 13,500 mg/l
 Remarks: (IUCLID)

iso-butanol:

Toxicity to fish : LC50 (*Pimephales promelas* (fathead minnow)): 1,430 mg/l
 End point: mortality
 Exposure time: 96 h
 Test Type: flow-through test
 Analytical monitoring: yes
 Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia pulex* (Water flea)): 1,100 mg/l
 End point: Immobilization
 Exposure time: 48 h
 Test Type: static test
 Remarks: (ECHA)

Toxicity to algae/aquatic plants : ErC50 (*Pseudokirchneriella subcapitata*): 1,799 mg/l
 Exposure time: 72 h
 Test Type: static test
 Analytical monitoring: yes
 Method: OECD Test Guideline 201
 GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (*Daphnia magna* (Water flea)): 20 mg/l
 End point: reproduction rate
 Exposure time: 21 d
 Analytical monitoring: yes
 Remarks: (ECHA)

N,N'-methylenediacrylamide:

Toxicity to fish : NOEC (*Danio rerio* (zebra fish)): 100 mg/l
 Exposure time: 96 h
 Analytical monitoring: yes
 Method: OECD Test Guideline 203
 GLP: yes

LC50 (*Danio rerio* (zebra fish)): > 100 mg/l

Exposure time: 96 h
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes

Toxicity to algae/aquatic plants : NOEC (Raphidocelis subcapitata (freshwater green alga)): 100 mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

formaldehyde:

Toxicity to fish : LC50 (Morone saxatilis): 6.7 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 5.8 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 4.89 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): ≥ 6.4 mg/l
End point: reproduction rate
Exposure time: 21 d
Test Type: semi-static test
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

Toxicity to microorganisms : EC50 (activated sludge): 19 mg/l
Exposure time: 3 h
Test Type: static test
Method: OECD Test Guideline 209

Persistence and degradability

Components:

N-[(2-Methylpropoxy)methyl]acrylamide:

Biodegradability : Remarks: No data available

acrylamide:

Biodegradability : aerobic
Inoculum: activated sludge, non-adapted
Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
GLP: yes

N-(Hydroxymethyl)acrylamide:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 2 mg/l
Result: Not readily biodegradable.
Biodegradation: 51.9 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

iso-butanol:

Biodegradability : aerobic
Inoculum: activated sludge
Result: Readily biodegradable.
Biodegradation: 70 - 80 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Chemical Oxygen Demand (COD) : 2,600 mg/g
Remarks: (External MSDS)

ThOD : 2,600 mg/g
Remarks: (Lit.)

BOD/ThOD : 64 %
Remarks: (Lit.)

N,N'-methylenediacrylamide:

Biodegradability : aerobic
Inoculum: activated sludge, non-adapted
Concentration: 50 mg/l
Result: Not readily biodegradable.
Biodegradation: 2.1 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

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GLP: yes

formaldehyde:

Biodegradability : aerobic
Inoculum: Sewage sludge
Concentration: 10 mg/l
Dissolved organic carbon (DOC)
Result: Readily biodegradable.
Biodegradation: 99 %
Exposure time: 28 d
Method: OECD Test Guideline 301A
GLP: yes

BOD/COD : BOD/COD: 0.74 %

Bioaccumulative potential

Components:

N-[(2-Methylpropoxy)methyl]acrylamide:

Bioaccumulation : Remarks: No data available

acrylamide:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Bioconcentration factor (BCF): 1.65
Exposure time: 72 h
Concentration: 0.71 mg/l

Partition coefficient: n-octanol/water : log Pow: -0.9 (68 °F / 20 °C)
pH: 7
Method: OECD Test Guideline 117
Remarks: Bioaccumulation is not expected.

N-(Hydroxymethyl)acrylamide:

Bioaccumulation : Remarks: No data available

iso-butanol:

Partition coefficient: n-octanol/water : log Pow: 1 (77 °F / 25 °C)
pH: 7
Method: OECD Test Guideline 117
Remarks: Bioaccumulation is not expected.

N,N'-methylenediacylamide:

Partition coefficient: n-octanol/water : log Pow: -0.08 (77 °F / 25 °C)
pH: 7.87 - 7.98
Method: OECD Test Guideline 107
GLP: yes
Remarks: Bioaccumulation is not expected.

formaldehyde:

Partition coefficient: n-octanol/water : log Pow: 0.021
Remarks: (Lit.)
Bioaccumulation is not expected.

Mobility in soil**Components:****N-[(2-Methylpropoxy)methyl]acrylamide:**

Stability in soil : Remarks: No data available

N-(Hydroxymethyl)acrylamide:

Stability in soil : Remarks: No data available

Other adverse effects**Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Components:**N-[(2-Methylpropoxy)methyl]acrylamide:**

Additional ecological information : No data available

N-(Hydroxymethyl)acrylamide:

Additional ecological information : No data available

iso-butanol:

Results of PBT and vPvB assessment : Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

N,N'-methylenediacylamide:

Additional ecological information : Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of drinking- water supplies.

Discharge into the environment must be avoided.

formaldehyde:

Results of PBT and vPvB assessment : Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Endocrine disrupting properties

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14. TRANSPORT INFORMATION**International Regulations****IATA-DGR**

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

National Regulations**49 CFR**

UN/ID/NA number : NA 1993
Proper shipping name : Combustible liquid, n.o.s.
(N-[(2-Methylpropoxy)methyl]acrylamide)
Class : Combustible liquid.

Packing group : III
Labels : None
ERG Code : 128
Marine pollutant : no
Poison Inhalation Hazard : No

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
iso-butanol	78-83-1	100	100 (F005)

SARA 304 Extremely Hazardous Substances Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

Components	CAS-No.	Component TPQ (lbs)
acrylamide	79-06-1	10000
acrylamide	79-06-1	1000*

*: Solid in the molten or powdered form (particles < 100 microns), in solution, or meeting the NFPA reactivity criteria

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

acrylamide	79-06-1	>= 5 - < 10 %
N-(Hydroxymethyl)acrylamide	924-42-5	>= 5 - < 10 %
formaldehyde	50-00-0	>= 0.1 - < 1 %

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

acrylamide	79-06-1	>= 5 - < 10 %
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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

acrylamide	79-06-1	>= 5 - < 10 %
iso-butanol	78-83-1	>= 1 - < 5 %

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

formaldehyde	50-00-0	>= 0.1 - < 1 %
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The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

formaldehyde 50-00-0 $\geq 0.1 - < 1 \%$

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

acrylamide	79-06-1
iso-butanol	78-83-1
formaldehyde	50-00-0

Pennsylvania Right To Know

acrylamide	79-06-1
iso-butanol	78-83-1
formaldehyde	50-00-0

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

formaldehyde	50-00-0
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Washington Chemicals of High Concern

formaldehyde	50-00-0
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California Prop. 65

WARNING: This product can expose you to chemicals including acrylamide, N-(Hydroxymethyl)acrylamide, formaldehyde, which is/are known to the State of California to cause cancer, and acrylamide, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The components of this product are reported in the following inventories:

US TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	: ACGIH - Biological Exposure Indices (BEI)
NIOSH REL	: USA. NIOSH Recommended Exposure Limits
OSHA CARC	: OSHA Specifically Regulated Chemicals/Carcinogens
OSHA Z-1	: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
US WEEL	: USA. Workplace Environmental Exposure Levels

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	(WEEL)
ACGIH / TWA	: 8-hour, time-weighted average
ACGIH / STEL	: Short-term exposure limit
NIOSH REL / TWA	: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / C	: Ceiling value not be exceeded at any time.
OSHA CARC / PEL	: Permissible exposure limit (PEL)
OSHA CARC / STEL	: Excursion limit
OSHA Z-1 / TWA	: 8-hour time weighted average
US WEEL / TWA	: 8-hr TWA
US WEEL / STEL	: Short-Term TWA

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above

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