

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Trade name	: DBAPA
Chemical name	: 1,3-Propanediamine, N,N-dibutyl-
CAS-No.	: 102-83-0
Formula	: C11H26N2
Synonyms	: 3-Aminopropyldibutylamine / N,N-Dibutyl-1,3-propanediamine / 3-(Dibutylamino)propylamine / Trimethylenediamine, N,N-dibutyl- / 1,3-Propanediamine, N1,N1-dibutyl-

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Monument Chemical
 10200 Bay Area Blvd.
 Pasadena, TX, 77507
 USA
 T (281)474-5550
sds@monumentchemical.com - www.monumentchemical.com

1.4. Emergency telephone number

Emergency number : 24 HR CHEMTREC: 1-800-424-9300 (International +1 703-741-5970)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Acute toxicity (dermal) Category 3	H311	Toxic in contact with skin
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
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Carcinogenicity Category 2	H351	Suspected of causing cancer
Full text of H statements : see section 16		

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H302 - Harmful if swallowed
 H311 - Toxic in contact with skin
 H314 - Causes severe skin burns and eye damage
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H351 - Suspected of causing cancer

Precautionary statements (GHS US) :

- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
- P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
- P264 - Wash hands, forearms and face 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.
- P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.
- P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
- P302+P352 - If on skin: Wash with plenty of 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.
- P312 - Call a poison center or doctor if you feel unwell.
- P321 - Specific treatment (see supplemental first aid instruction on this label).
- P322 - Specific treatment (see supplemental first aid instruction on this label)
- P330 - Rinse mouth.
- P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
- P361+P364 - Take off immediately all contaminated clothing and wash it before reuse.
- P363 - Wash contaminated clothing before reuse.
- P405 - Store locked up.
- P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Chemical name : 1,3-Propanediamine, N,N-dibutyl-
CAS-No. : 102-83-0

Name	Product identifier	%
1,3-Propanediamine, N,N-dibutyl-	CAS-No.: 102-83-0	> 95
Di-n-butylamine	CAS-No.: 111-92-2	0.1 – 1
methanol	CAS-No.: 67-56-1	0.1 – 0.3
Acrylonitrile	CAS-No.: 107-13-1	0.1 – 0.3
3-Methoxypropylamine	CAS-No.: 5332-73-0	≤ 0.2
Propanenitrile, 3-methoxy-	CAS-No.: 110-67-8	0.1 – 0.2

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

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3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.
First-aid measures after skin contact	: Immediately call a poison center or doctor/physician. Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Specific measures (see supplemental first aid instruction on this label). Wash contaminated clothing before reuse. Rinse skin with water/shower. If skin irritation or rash occurs: Consult a doctor/medical service. Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label).
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a poison center or doctor/physician.

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

Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met. Harmful if swallowed. Toxic in contact with skin.
Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: May cause an allergic skin reaction.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid breathing dust/fume/gas/mist/vapors/spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources, Ignition sources, Incompatible materials. Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1,3-Propanediamine, N,N-dibutyl- (102-83-0)

No additional information available

1,3-Propanediamine, N,N-dibutyl- (102-83-0)

No additional information available

methanol (67-56-1)

USA - ACGIH - Occupational Exposure Limits

Local name	Methanol
ACGIH OEL TWA [ppm]	200 ppm
ACGIH OEL STEL [ppm]	250 ppm
Remark (ACGIH)	Headache; eye dam; dizziness; nausea

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methanol (67-56-1)	
ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2021
USA - ACGIH - Biological Exposure Indices	
Local name	METHANOL
BEI (BLV)	15 mg/l Parameter: Methanol - Medium: urine - Sampling time: end of shift (background, nonspecific)
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
Local name	Methyl alcohol
OSHA PEL (TWA) [1]	260 mg/m ³
OSHA PEL (TWA) [2]	200 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	6000 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	260 mg/m ³
NIOSH REL TWA [ppm]	200 ppm
NIOSH REL (STEL)	325 mg/m ³
NIOSH REL STEL [ppm]	250 ppm
US-NIOSH chemical category	Potential for dermal absorption
Acrylonitrile (107-13-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Acrylonitrile
ACGIH OEL TWA [ppm]	2 ppm
Remark (ACGIH)	TLV® Basis: CNS impair; LRT irr. Notations: Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans, Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [2]	2 ppm
OSHA PEL C [ppm]	10 ppm
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	60 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA [ppm]	1 ppm
NIOSH REL C [ppm]	10 ppm
US-NIOSH chemical category	SK: SYS(FATAL)-DIR(IRR)-SEN Apr 2011

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Di-n-butylamine (111-92-2)	
USA - AIHA - Occupational Exposure Limits	
WEEL C [ppm]	5 ppm
AIHA chemical category	skin notation
3-Methoxypropylamine (5332-73-0)	
USA - AIHA - Occupational Exposure Limits	
WEEL TWA [ppm]	5 ppm
WEEL STEL [ppm]	15 ppm (15-min. STEL)
Propanenitrile, 3-methoxy- (110-67-8)	
No additional information available	

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:
Wear protective gloves.
Eye protection:
Chemical goggles or face shield
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
Wear appropriate mask

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Colorless to yellowish liquid.
Color	: Colourless to yellow
Odor	: characteristic
Odor threshold	: No data available
pH	: > 9
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 93.34 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available

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Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.865 – 0.905 g/ml
Molecular mass	: 186.33 g/mol
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
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

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive vapors.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Toxic in contact with skin.
Acute toxicity (inhalation)	: Not classified

1,3-Propanediamine, N,N-dibutyl- (102-83-0)

LD50 oral rat	820 mg/kg
ATE US (oral)	820 mg/kg body weight
ATE US (dermal)	314.496 mg/kg body weight

1,3-Propanediamine, N,N-dibutyl- (102-83-0)

LD50 oral rat	820 mg/kg
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1,3-Propanediamine, N,N-dibutyl- (102-83-0)	
ATE US (oral)	820 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
methanol (67-56-1)	
LD50 oral rat	1187 – 2769 mg/kg
LD50 dermal rabbit	17100 mg/kg
LC50 Inhalation - Rat	128 mg/l air (BASF test, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours))
LC50 Inhalation - Rat [ppm]	22500 ppm (Exposure time: 8 h)
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h
Acrylonitrile (107-13-1)	
LD50 oral rat	193 mg/kg
LD50 dermal rabbit	63 mg/kg
LC50 Inhalation - Rat	0.47 mg/l/4h
ATE US (oral)	193 mg/kg body weight
ATE US (dermal)	63 mg/kg body weight
ATE US (vapors)	0.47 mg/l/4h
ATE US (dust, mist)	0.47 mg/l/4h
Di-n-butylamine (111-92-2)	
LD50 oral rat	189 mg/kg
LD50 dermal rabbit	768 mg/kg
LC50 Inhalation - Rat	1.15 mg/l/4h
ATE US (oral)	189 mg/kg body weight
ATE US (dermal)	768 mg/kg body weight
ATE US (vapors)	1.15 mg/l/4h
ATE US (dust, mist)	1.15 mg/l/4h
3-Methoxypropylamine (5332-73-0)	
LD50 oral rat	688 mg/kg
LD50 dermal rat	≈ 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat [ppm]	11500 ppm 6hr
ATE US (oral)	688 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
Propanenitrile, 3-methoxy- (110-67-8)	
LD50 oral rat	4390 mg/kg

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Propanenitrile, 3-methoxy- (110-67-8)	
LD50 dermal rabbit	9390 mg/kg
ATE US (oral)	4390 mg/kg body weight
ATE US (dermal)	9390 mg/kg body weight
Skin corrosion/irritation	: Causes severe skin burns. pH: > 9
Serious eye damage/irritation	: Causes serious eye damage. pH: > 9
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
Acrylonitrile (107-13-1)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
In OSHA Hazard Communication Carcinogen list	Yes
In OSHA Specifically Regulated Carcinogen list	Yes
Reproductive toxicity	: Not classified
methanol (67-56-1)	
NOAEL (animal/male, F0/P)	< 1000 mg/kg body weight Animal: mouse, Animal sex: male
3-Methoxypropylamine (5332-73-0)	
NOAEL (animal/male, F0/P)	1000 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:EPA/OPPTS 870.3650: Combined Repeated Dose Toxicity Study With the Reproduction/Developmental Toxicity Screening Test (July 2000)
NOAEL (animal/female, F0/P)	300 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:EPA/OPPTS 870.3650: Combined Repeated Dose Toxicity Study With the Reproduction/Developmental Toxicity Screening Test (July 2000)
STOT-single exposure	: Not classified
methanol (67-56-1)	
STOT-single exposure	Causes damage to organs.
Acrylonitrile (107-13-1)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met. Harmful if swallowed. Toxic in contact with skin.
Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: May cause an allergic skin reaction.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information**12.1. Toxicity**

methanol (67-56-1)	
LC50 - Fish [1]	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	> 10000 mg/l
LC50 - Fish [2]	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
ErC50 algae	22000 mg/l 96 h
NOEC (chronic)	208 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
Acrylonitrile (107-13-1)	
LC50 - Fish [1]	6.7 – 15 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	7.38 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	8 – 12 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
Di-n-butylamine (111-92-2)	
LC50 - Fish [1]	5.5 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 - Crustacea [1]	66 mg/l (Exposure time: 48 h - Species: Daphnia magna)
3-Methoxypropylamine (5332-73-0)	
LC50 - Fish [1]	146.6 – 1000 mg/l (4days)
EC50 - Crustacea [1]	65 mg/l (48h)
LC50 - Fish [2]	> 1000 mg/l Test organisms (species): Leuciscus idus
ErC50 algae	31 – 44 mg/l (72)

12.2. Persistence and degradability

1,3-Propanediamine, N,N-dibutyl- (102-83-0)	
Persistence and degradability	Not established.
methanol (67-56-1)	
Persistence and degradability	Not established.
Biochemical oxygen demand (BOD)	0.6 – 1.12 g O ₂ /g substance
Chemical oxygen demand (COD)	1.42 g O ₂ /g substance
ThOD	1.5 g O ₂ /g substance
3-Methoxypropylamine (5332-73-0)	
Persistence and degradability	Not readily biodegradable in water.
Propanenitrile, 3-methoxy- (110-67-8)	
Persistence and degradability	Biodegradability in water: no data available.

12.3. Bioaccumulative potential

1,3-Propanediamine, N,N-dibutyl- (102-83-0)	
Bioaccumulative potential	Not established.

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methanol (67-56-1)	
BCF - Fish [1]	< 10
Partition coefficient n-octanol/water (Log Pow)	-0.77
Bioaccumulative potential	Not established.
Acrylonitrile (107-13-1)	
BCF - Fish [1]	48
Partition coefficient n-octanol/water (Log Pow)	-0.92
Di-n-butylamine (111-92-2)	
Partition coefficient n-octanol/water (Log Pow)	2.06 (at 25 °C)
3-Methoxypropylamine (5332-73-0)	
BCF - Fish [1]	2.7 – 3.6 l/kg (OECD 305: Bioconcentration: Flow-Through Fish Test, 6 week(s), Cyprinus carpio, Flow-through system, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	-0.5 (Experimental value, Equivalent or similar to OECD 107, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
Propanenitrile, 3-methoxy- (110-67-8)	
Partition coefficient n-octanol/water (Log Pow)	-0.389
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

methanol (67-56-1)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	-0.89 – -0.21 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.
3-Methoxypropylamine (5332-73-0)	
Mobility in soil	28.7 ug/kg soil dw
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.41 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Ecology - waste materials : Hazardous waste due to toxicity. Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

DOT NA No : UN2922
UN-No. (IMDG) : UN2922
UN-No. (IATA) : UN2922

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Corrosive liquids, toxic, n.o.s. (3-Aminopropylidibutylamine)
Proper Shipping Name (TDG) : CORROSIVE LIQUID, TOXIC, N.O.S. (3-Aminopropylidibutylamine)
Proper Shipping Name (IMDG) : CORROSIVE LIQUID, TOXIC, N.O.S. (3-Aminopropylidibutylamine)
Proper Shipping Name (IATA) : Corrosive liquid, toxic, n.o.s. (3-Aminopropylidibutylamine)
Transport document description (DOT) : UN2922 Corrosive liquids, toxic, n.o.s. (3-Aminopropylidibutylamine), 8 (6.1), II
Transport document description (IMDG) : UN UN2922 CORROSIVE LIQUID, TOXIC, N.O.S. (3-Aminopropylidibutylamine), 8 (6.1), II
Transport document description (IATA) : UN UN2922 Corrosive liquid, toxic, n.o.s. (3-Aminopropylidibutylamine), 8 (6.1), II

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 8 (6.1)
Hazard labels (DOT) : 8, 6.1



IMDG

Transport hazard class(es) (IMDG) : 8 (6.1)
Hazard labels (IMDG) : 8, 6.1



IATA

Transport hazard class(es) (IATA) : 8 (6.1)
Hazard labels (IATA) : 8, 6.1



14.4. Packing group

Packing group (DOT) : II
Packing group (IMDG) : II
Packing group (IATA) : II

14.5. Environmental hazards

Other information : No supplementary information available.

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14.6. Special precautions for user

DOT

UN-No.(DOT)	: UN2922
DOT Special Provisions (49 CFR 172.102)	: B3 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks and DOT 57 portable tanks are not authorized. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf 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 (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 154
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 243
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 30 L
DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" 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; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters"

IMDG

Special provision (IMDG)	: 274
Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP2
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG)	: B
Properties and observations (IMDG)	: Causes burns to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.

IATA

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y840
PCA limited quantity max net quantity (IATA)	: 0.5L
PCA packing instructions (IATA)	: 851
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 855
CAO max net quantity (IATA)	: 30L
Special provision (IATA)	: A3, A803
ERG code (IATA)	: 8P

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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

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
1,3-Propanediamine, N,N-dibutyl-	102-83-0	Present	Active	
methanol	67-56-1	Present	Active	
Acrylonitrile	107-13-1	Present	Active	TP
Di-n-butylamine	111-92-2	Present	Active	TP
3-Methoxypropylamine	5332-73-0	Present	Active	TP
Propanenitrile, 3-methoxy-	110-67-8	Present	Active	TP

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.

Methanol	CAS-No. 67-56-1	0.1 – 0.3%
Acrylonitrile	CAS-No. 107-13-1	0.1 – 0.3%

methanol (67-56-1)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	5000 lb
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Acrylonitrile (107-13-1)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	100 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
Section 302 EPCRA Reportable Quantity (RQ)	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb

15.2. International regulations

CANADA

1,3-Propanediamine, N,N-dibutyl- (102-83-0)

Listed on the Canadian NDSL (Non-Domestic Substances List)

1,3-Propanediamine, N,N-dibutyl- (102-83-0)

Listed on the Canadian NDSL (Non-Domestic Substances List)

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methanol (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

Acrylonitrile (107-13-1)

Listed on the Canadian DSL (Domestic Substances List)

Toxic Substance (CEPA – Schedule I)

Yes

Di-n-butylamine (111-92-2)

Listed on the Canadian DSL (Domestic Substances List)

3-Methoxypropylamine (5332-73-0)

Listed on the Canadian DSL (Domestic Substances List)

Propanenitrile, 3-methoxy- (110-67-8)

Listed on the Canadian NDSL (Non-Domestic Substances List)

EU-Regulations

1,3-Propanediamine, N,N-dibutyl- (102-83-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

1,3-Propanediamine, N,N-dibutyl- (102-83-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

methanol (67-56-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Acrylonitrile (107-13-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Di-n-butylamine (111-92-2)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

3-Methoxypropylamine (5332-73-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Propanenitrile, 3-methoxy- (110-67-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

1,3-Propanediamine, N,N-dibutyl- (102-83-0)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
 Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
 Listed on NZIoC (New Zealand Inventory of Chemicals)
 Listed on the Japanese ISHL (Industrial Safety and Health Law)
 Listed on the TCSI (Taiwan Chemical Substance Inventory)
 Listed on the NCI (Vietnam - National Chemicals Inventory)

1,3-Propanediamine, N,N-dibutyl- (102-83-0)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
 Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
 Listed on NZIoC (New Zealand Inventory of Chemicals)
 Listed on the Japanese ISHL (Industrial Safety and Health Law)
 Listed on the TCSI (Taiwan Chemical Substance Inventory)
 Listed on the NCI (Vietnam - National Chemicals Inventory)

methanol (67-56-1)

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
 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 Chemicals Inventory)

Acrylonitrile (107-13-1)

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 Chemicals Inventory)

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Di-n-butylamine (111-92-2)

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)
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 Chemicals Inventory)

3-Methoxypropylamine (5332-73-0)

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)
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 Chemicals Inventory)

Propanenitrile, 3-methoxy- (110-67-8)

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
Japanese Poisonous and Deleterious Substances Control 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 Chemicals Inventory)

15.3. US State regulations



WARNING:

This product can expose you to Acrylonitrile, which is known to the State of California to cause cancer, and methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
methanol(67-56-1)	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
Acrylonitrile(107-13-1)	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) - Special Hazardous Substances; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
Di-n-butylamine(111-92-2)	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

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Component	State or local regulations
3-Methoxypropylamine(5332-73-0)	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
Propanenitrile, 3-methoxy-(110-67-8)	U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List

SECTION 16: Other information

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Revision date : 11/09/2021

Other information : None.

Full text of H-phrases	
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H351	Suspected of causing cancer

Safety Data Sheet (SDS), USA

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