

1 Identification

- **Product identifier**
- **Trade name:** *N-Decane, Certified Grade*
- **Article number:** 300051
- **CAS Number:**
124-18-5
- **EC number:**
204-686-4
- **Molecular Formula** $C_{10}H_{22}$
- **Molecular Weight** 142.29 g/mol
- **Application of the substance / the mixture** Research use only.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
MP Biomedicals, LLC
29525 Fountain Parkway
Solon, OH 44139
United States
www.mpbio.com
- **Information department:** Product safety department
- **Emergency telephone number:** CHEMTREC: 1-800-424-9300 (1-703-527-3887)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 3

H226 Flammable liquid and vapour.



GHS06 Skull and crossbones

Acute Toxicity (Inhalation) - Category 3

H331 Toxic if inhaled.



GHS07

Acute Toxicity (Oral) - Category 4

H302 Harmful if swallowed.

Skin Irritation - Category 2

H315 Causes skin irritation.

Eye Irritation - Category 2

H319 Causes serious eye irritation.

Specific Target Organ Toxicity - Single Exposure -
Category 3

H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02



GHS06



GHS07

- **Signal word** Danger

- **Hazard statements**

Flammable liquid and vapour.

Harmful if swallowed.

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Toxic if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

· Precautionary statements

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Use explosion-proof [electrical/ventilating/lighting] equipment.

Avoid breathing dust/fume/gas/mist/vapours/spray.

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

Ground and bond container and receiving equipment.

Use non-sparking tools.

Take actions to prevent static discharges.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see on this label).

Call a POISON CENTER/doctor.

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If eye irritation persists: Get medical advice/attention.

Rinse mouth.

In case of fire: Use for extinction: CO₂, powder or water spray.

Take off contaminated clothing and wash it before reuse.

Store locked up.

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

Store in a well-ventilated place. Keep cool.

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

· Hazard description:

· WHMIS-symbols:

B3 - Combustible liquid

D2B - Toxic material causing other toxic effects



· Classification system:

· NFPA ratings (scale 0 - 4)



Health = 2

Fire = 2

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 2

Fire = 2

Reactivity = 0

· Other hazards

· Results of PBT and vPvB assessment

· PBT: *Not applicable.*

· vPvB: *Not applicable.*

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3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
124-18-5 N-Decane
- **Identification number(s)**
- **EC number: 204-686-4**

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Prevent seepage into sewage system, workpits and cellars.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
*Ensure good ventilation/exhaustion at the workplace.
 Open and handle receptacle with care.
 Prevent formation of aerosols.*
- **Information about protection against explosions and fires:**
*Keep ignition sources away - Do not smoke.
 Protect against electrostatic charges.
 Keep respiratory protective device available.*
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** 15 - 30 °C
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:** *Keep receptacle tightly sealed.*
- **Specific end use(s)** *No further relevant information available.*

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** *No further data; see item 7.*
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** *Not required.*
- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
*Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing.
 Wash hands before breaks and at the end of work.
 Store protective clothing separately.
 Avoid contact with the eyes and skin.*
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/
 the chemical mixture.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the
 degradation*

- **Material of gloves**
*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality
 and varies from manufacturer to manufacturer.*
- **Penetration time of glove material**
*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be
 observed.*

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· **Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

· Form:	Liquid
· Color:	Colorless
· Odor:	Indeterminate
· Odor threshold:	Not determined.

· **pH-value:** Not determined.· **Change in condition**

· Melting point/Melting range:	-30 °C
· Boiling point/Boiling range:	174 °C

· **Flash point:** 46 °C· **Flammability (solid, gaseous):** Not applicable.· **Ignition temperature:** 210 °C· **Decomposition temperature:** Not determined.· **Auto igniting:** Not determined.· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.· **Explosion limits:**

· Lower:	0.7 Vol %
· Upper:	5.4 Vol %

· **Vapor pressure at 37 °C:** 5.1 hPa· **Density at 20 °C:** 0.734 g/cm³· **Relative density** Not determined.· **Vapor density** Not determined.· **Evaporation rate** Not determined.· **Solubility in / Miscibility with** -· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**· **Dynamic:** Not determined.· **Kinematic at 20 °C:** 1.16 mm²/s· **Other information** No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.· **Chemical stability**· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.· **Possibility of hazardous reactions** No dangerous reactions known.· **Conditions to avoid** No further relevant information available.

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- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rat)
Inhalative	LC50/4 h	5.6 mg/L (rat)

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:** Irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)** Substance is not listed.

- **NTP (National Toxicology Program)** Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

Oral	LC50 / 96 h	1000 mg/L (Oncorhynchus mykiss)
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- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:** Not known to be hazardous to water.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**

- **DOT, TDG, IMDG, IATA**

UN2247

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· **UN proper shipping name**
 · **DOT, IATA** *n-Decane*
 · **TDG** *2247 n-Decane*
 · **IMDG** *n-DECANE*

· **Transport hazard class(es)**
 · **DOT**



· **Class** *3 Flammable liquids*
 · **Label** *3*
 · **TDG, IMDG, IATA**



· **Class** *3 Flammable liquids*
 · **Label** *3*

· **Packing group**
 · **DOT, TDG, IMDG, IATA** *III*

· **Environmental hazards:** *Not applicable.*

· **Special precautions for user** *Warning: Flammable liquids*
 · **Danger code (Kemler):** *30*
 · **EMS Number:** *3-07*
 · **Stowage Category** *A*

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** *Not applicable.*

· **Transport/Additional information:**

· **DOT**
 · **Quantity limitations** *On passenger aircraft/rail: 60 L*
On cargo aircraft only: 220 L

· **TDG**
 · **Excepted quantities (EQ)** *Code: E1*
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· **IMDG**
 · **Limited quantities (LQ)** *5L*
 · **Excepted quantities (EQ)** *Code: E1*
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":** *UN 2247 N-DECANE, 3, III*

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 · **Sara**
 · **Section 355 (extremely hazardous substances):** *Substance is not listed.*
 · **Section 313 (Specific toxic chemical listings):** *Substance is not listed.*
 · **TSCA (Toxic Substances Control Act):** *Substance is listed.*

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- **Proposition 65**
 - **Chemicals known to cause cancer:** Substance is not listed.
 - **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
 - **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
 - **Chemicals known to cause developmental toxicity:** Substance is not listed.
 - **Carcinogenic categories**
 - **EPA (Environmental Protection Agency)** Substance is not listed.
 - **TLV (Threshold Limit Value established by ACGIH)** Substance is not listed.
 - **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
 - **Canadian substance listings:**
 - **Canadian Domestic Substances List (DSL)** Substance is listed.
 - **Canadian Ingredient Disclosure list (limit 0.1%)** Substance is not listed.
 - **Canadian Ingredient Disclosure list (limit 1%)** Substance is not listed.
 - **GHS label elements**
- The substance is classified and labeled according to the Globally Harmonized System (GHS).



GHS02 GHS06 GHS07

- **Signal word** *Danger*
- **Hazard statements**
- Flammable liquid and vapour.*
- Harmful if swallowed.*
- Toxic if inhaled.*
- Causes skin irritation.*
- Causes serious eye irritation.*
- May cause respiratory irritation.*
- **Precautionary statements**
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*
- Use explosion-proof [electrical/ventilating/lighting] equipment.*
- Avoid breathing dust/fume/gas/mist/vapours/spray.*
- Wear protective gloves/protective clothing/eye protection/face protection.*
- Ground and bond container and receiving equipment.*
- Use non-sparking tools.*
- Take actions to prevent static discharges.*
- Wash thoroughly after handling.*
- Do not eat, drink or smoke when using this product.*
- Use only outdoors or in a well-ventilated area.*
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
- Specific treatment (see on this label).*
- Call a POISON CENTER/doctor.*
- IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.*
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.*
- If eye irritation persists: Get medical advice/attention.*
- Rinse mouth.*
- In case of fire: Use for extinction: CO2, powder or water spray.*
- Take off contaminated clothing and wash it before reuse.*
- Store locked up.*
- Store in a well-ventilated place. Keep container tightly closed.*
- Store in a well-ventilated place. Keep cool.*
- Dispose of contents/container in accordance with local/regional/national/international regulations.*

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· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** Product safety department

· **Date of preparation / last revision** 12/21/2015 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

Flammable Liquids - Category 3: Flammable liquids, Hazard Category 3

Acute Toxicity (Oral) - Category 4: Acute toxicity, Hazard Category 4

Acute Toxicity (Inhalation) - Category 3: Acute toxicity, Hazard Category 3

Skin Irritation - Category 2: Skin corrosion/irritation, Hazard Category 2

Eye Irritation - Category 2: Serious eye damage/eye irritation, Hazard Category 2

Specific Target Organ Toxicity - Single Exposure - Category 3: Specific target organ toxicity - Single exposure, Hazard Category 3