Enhanced K-Blue® Substrate

Safety Data Sheet

according to the Hazardous Products Regulation (WHMIS 2015)
Issue date: 08-13-2025 Revision date: 02-18-2026 Supersedes: 10-13-2025 Version: 4.0

SECTION 1 Identification

1.1. GHS Product identifier

Product form	: Mixture
Trade name	: Enhanced K-Blue® Substrate
Type of product	: Life Sciences -- [Life Sciences]
Product code	: 308171

1.2. Other means of identification

Part Number(s) : 308171|308175|308176|308177|308181|21007|308170-W|308174-W|308177-U|308187|308187-L|308189|308189-L|308189-WH-L|308193|308194-W|308194-WL|308199|308202|308203|308203-L|308205|308205-W|308206|308208|308209|308212|308240|308240-W|308243|308249-L|308249-WL|308251|308254|308254-W|308254-WL|308255-W|308256|308256-L|308257|308258|308261|308xxx (generic)|501822|501823

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Laboratory chemicals,Scientific research and development

1.4. Supplier's details

Neogen Corporation
620 Lesher Place
Lansing, Michigan 48912
United States of America
T 800.234.5333
sds@neogen.com - https://www.neogen.com/

1.5. Emergency phone number

Emergency number : 24 hours:
Medical: 1-800-498-5743 (U.S. and Canada) or 1-651-523-0318 (international)
Spill/CHEMTREC: 1-800-424-9300 (U.S. and Canada) or 1-703-527-3887 (international)

SECTION 2 Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Reproductive toxicity, Category 1B	H360	May damage fertility or the unborn child.
Specific target organ toxicity, Repeated exposure, Category 2	H373	May cause damage to organs through prolonged or repeated exposure.

Full text of H statements : see section 16

2.2. GHS label elements, including precautionary statements

GHS CA labeling

Hazard pictograms (GHS CA) :

Signal word (GHS CA) : Danger

Hazard statements (GHS CA)	:	H360 - May damage fertility or the unborn child H373 - May cause damage to organs through prolonged or repeated exposure.
Precautionary statements (GHS CA)	:	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. P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection. P308+P313 - IF exposed or concerned: Get medical advice or attention. P314 - Get medical advice or attention if you feel unwell. P405 - Store locked up. P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
N-Methyl-2-pyrrolidinone	N-methyl-2-pyrrolidone, 1-methyl-2-pyrrolidone 1-methyl-2-oxopyrrolidine / 1-methyl-2-pyrrolidinone / 1-methyl-2-pyrrolidone / 1-methyl-5-pyrrolidinone / 1-methyl-5-pyrrolidone / 1-methyl-alpha-pyrrolidinone / 1-methylazacyclopentan-2-one / 1-methyl-gamma-butyrolactam / 1-methylpyrrolid-2-one / 1-methylpyrrolidinone / 1-methylpyrrolidone / 1-methylpyrrolidone-2 / 2-Pyrrolidinone, 1-methyl- / methyl-alpha-pyrrolidone, normal / methylpyrrolidone, N- / N-methyl-2-pyrrolidinone / N-methyl-2-pyrrolidone / N-methyl-alpha-pyrrolidinone / N-methyl-alpha-pyrrolidone / N-methyl-gamma-butyrolactam / N-methylpyrrolidinone / N-methylpyrrolidone / N-methylpyrrolidone (NMP) / NMP (=N-methyl-2-pyrrolidone)	CAS-No.: 872-50-4	≥ 1 – < 5	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 1B, H360 STOT SE 3, H335 STOT RE 2, H373

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

SECTION 4 First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

First-aid measures general : IF exposed or concerned: Get medical advice/attention.

Personal protection for first-aid responders. : First aid workers will be equipped with suitable personal protective equipment.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : None under normal conditions.

Symptoms/effects after skin contact : None under normal conditions.

Symptoms/effects after eye contact : None under normal conditions.

Symptoms/effects after ingestion : None under normal conditions.

Chronic symptoms : May damage fertility or the unborn child.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Treat symptomatically.

SECTION 5 Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : No fire hazard.

Explosion hazard : No direct explosion hazard.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective actions for fire-fighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

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

6.2. Methods and materials for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.
For further information refer to section 13.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray.

Hygiene measures : Separate working clothes from town clothes. Launder separately. 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 : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Store locked up.

Packaging materials : Always store product in container of same material as original container.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

N-Methyl-2-pyrrolidinone (872-50-4)	
Canada (Ontario) - Occupational Exposure Limits	
Local name	N-Methyl-2-pyrrolidone
OEL TWAEV	400 mg/m³
Regulatory reference	Occupational Health and Safety Act, R.S.O. 1990, c. O.1 - R.R.O. 1990, Reg. 833: Ontario table of occupational exposure limits

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment:
Wear recommended personal protective equipment.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	No data available
Color	:	Clear light blue
Odor	:	Odorless Slight
Odor threshold	:	No data available
pH	:	3.4 – 3.6
Relative evaporation rate (butyl acetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Not applicable
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Solubility	:	Soluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Viscosity, kinematic	:	No data available
Explosion limits	:	No data available
Particle characteristics	:	No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

Reactivity	:	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reactions known under normal conditions of use.
Conditions to avoid	:	None under recommended storage and handling conditions (see section 7).
Incompatible materials	:	No additional information available
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hardening time:	:	No additional information available

SECTION 11 Toxicological information

11.1. Likely routes of exposure

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified

Acute toxicity (inhalation) : Not classified

N-Methyl-2-pyrrolidinone (872-50-4)	
LD50 oral rat	4150 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 oral	3500 mg/kg
LD50 dermal rat	> 5000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LD50 dermal	6000 mg/kg
LC50 Inhalation - Rat	> 5.1 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))
LC50 Inhalation - Rat (Dust/Mist)	5.1 mg/l/4h
LC50 Inhalation - Rat (Vapors)	> 5.1 mg/l/4h
ATE CA (oral)	3500 mg/kg body weight
ATE CA (Dermal)	6000 mg/kg body weight
ATE CA (dust,mist)	5.1 mg/l/4h

Skin corrosion/irritation : Not classified.
pH: 3.4 – 3.6

N-Methyl-2-pyrrolidinone (872-50-4)	
pH	No data available in the literature

Serious eye damage/irritation : Not classified
pH: 3.4 – 3.6

N-Methyl-2-pyrrolidinone (872-50-4)	
pH	No data available in the literature

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

N-Methyl-2-pyrrolidinone (872-50-4)	
NOAEL (chronic,oral,animal/male,2 years)	≈ 89 mg/kg body weight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 451 (Carcinogenicity Studies), Guideline: EU Method B.32 (Carcinogenicity Test), Guideline: EPA OTS 798.3300 (Carcinogenicity)
NOAEL (chronic,oral,animal/female,2 years)	≈ 221 mg/kg body weight Animal: mouse, Animal sex: female, Guideline: OECD Guideline 451 (Carcinogenicity Studies), Guideline: EU Method B.32 (Carcinogenicity Test), Guideline: EPA OTS 798.3300 (Carcinogenicity)

Reproductive toxicity : May damage fertility or the unborn child.

N-Methyl-2-pyrrolidinone (872-50-4)	
LOAEL (animal/female, F0/P)	500 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
NOAEL (animal/male, F0/P)	≥ 500 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
NOAEL (animal/female, F0/P)	350 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

STOT-single exposure : Not classified

N-Methyl-2-pyrrolidinone (872-50-4)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

N-Methyl-2-pyrrolidinone (872-50-4)	
LOAEL (dermal,rat/rabbit,90 days)	1653 mg/kg body weight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
NOAEL (oral,rat,28 days)	820 mg/kg bw/day
NOAEL (dermal,rat/rabbit,28 days)	< 413 mg/kg bw/day
NOAEC (inhalation, rat, 28 days)	0.1 mg/l
NOAEL (oral,rat,90 days)	169 mg/kg bw/day
NOAEL (dermal,rat/rabbit,90 days)	826 mg/kg body weight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
NOAEC (inhalation, rat, 90 days)	0.5 mg/l
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

N-Methyl-2-pyrrolidinone (872-50-4)	
Viscosity, kinematic	No data available in the literature

Symptoms/effects after inhalation : None under normal conditions.

Symptoms/effects after skin contact : None under normal conditions.

Symptoms/effects after eye contact : None under normal conditions.

Symptoms/effects after ingestion : None under normal conditions.

Chronic symptoms : May damage fertility or the unborn child.

SECTION 12 Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short–term (acute) : Not classified.

Hazardous to the aquatic environment, long–term (chronic) : Not classified.

N-Methyl-2-pyrrolidinone (872-50-4)	
LC50 - Fish [1]	> 500 mg/l (96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	> 1000 mg/l (DIN 38412-11, 24 h, Daphnia magna, Static system, Fresh water, Experimental value, Lethal)
ErC50 algae	600.5 mg/l (DIN 38412-9, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 72h - Algae [1]	600.5 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	672.8 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
NOEC (chronic)	12.5 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

N-Methyl-2-pyrrolidinone (872-50-4)	
NOEC chronic crustacea	12.5 mg/l
LOEC (chronic)	25 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

Enhanced K-Blue® Substrate	
Persistence and degradability	Not rapidly degradable

N-Methyl-2-pyrrolidinone (872-50-4)	
Persistence and degradability	Readily biodegradable in the soil, Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.07 g O_2/g substance
Chemical oxygen demand (COD)	1.56 g O_2/g substance
ThOD	1.9 g O_2/g substance

12.3. Bioaccumulative potential

N-Methyl-2-pyrrolidinone (872-50-4)	
Bioaccumulative potential	Not bioaccumulative.
BCF - Fish [1]	3.16 l/kg
Partition coefficient n-octanol/water (Log Pow)	-0.46 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)

12.4. Mobility in soil

N-Methyl-2-pyrrolidinone (872-50-4)	
Surface tension	No data available in the literature
Ecology - soil	Highly mobile in soil.
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.87 (log Koc, SRC PCKOCWIN v2.0, QSAR)

12.5. Other adverse effects

Ozone : Not classified

Fluorinated greenhouse gases : No

SECTION 13 Disposal considerations

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.
Ecological waste information : The waste of the product should be considered as hazardous as the product itself, with the likelihood of impacting the environment in the same way. Consider the handling and disposal of the waste as defined by the product itself.

SECTION 14 Transport information

In accordance with TDG / DOT / IMDG / IATA

TDG	DOT	IMDG	IATA
14.1. UN Number			
Not regulated for transport			
14.2. UN Proper Shipping Name			
Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)			
Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group, if applicable			
Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards			
Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available			

14.6. Special precautions for user

TDG
Not regulated

DOT
Not regulated

IMDG
Not regulated

IATA
Not regulated

14.7. Transport in bulk according to Annex II of MARPOL 73/78[9] and the IBC Code[10]

Not applicable

SECTION 15 Regulatory information

N-Methyl-2-pyrrolidinone (872-50-4)

Listed on the Canadian DSL (Domestic Substances List)

N-Methyl-2-pyrrolidinone (872-50-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on INSQ (Mexican National Inventory of Chemical Substances)

SECTION 16 Other Information

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Supersedes : 10-13-2025

Full text of hazard classes and H-statements:	
H227	Combustible liquid
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure.

Safety Data Sheet (SDS), Canada

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.