

SECTION 1 Identification

1.1. GHS Product identifier

Product form : Mixture
Trade name : K-Blue® Select TMB Substrate
Type of product : Life Sciences -- [Life Sciences]
Product code : 21466

1.2. Other means of identification

Part Number(s) : 21466|382171|382175|382176|382177|382257|382XXX

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 Leshar 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.
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

Precautionary statements (GHS CA) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.
P308+P313 - IF exposed or concerned: Get medical advice or attention.
P405 - Store locked up.

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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)
2-Pyrrolidinone	2-Pyrrolidinone 2-ketopyrrolidine / 2-ketopyrrolidone / 2-oxopyrrolidine / 2-pyrol / 2- pyrrolidinone / 2- pyrrolidon usp / 2- pyrrolidone / 4- aminobutyric acid lactam / alpha- pyrrolidinone / alpha-pyrrolidone / butanoic acid, 4- amino-, lactam / butyrolactam(=2- pyrrolidone) / gamma- aminobutyric acid lactam / gamma- aminobutyric lactam / gamma- aminobutyrolacta m / gamma- butyrolactam / lam / pyrrolidon dest. / pyrrolidone	CAS-No.: 616-45-5	≥ 5 – < 10	Eye Irrit. 2, H319 Repr. 1B, H360

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

SECTION 4 First-aid measures

4.1. Description of necessary first-aid measures

No additional information available

4.2. Most important symptoms/effects, acute and delayed

No additional information available

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

No additional information available

SECTION 5 Fire-fighting measures

5.1. Suitable extinguishing media

No additional information available

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective actions for fire-fighters

No additional information available

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.2. Methods and materials for containment and cleaning up

No additional information available

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7 Handling and storage

7.1. Precautions for safe handling

No additional information available

7.2. Conditions for safe storage, including any incompatibilities

Storage temperature : 2 – 8 °C

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

No additional information available

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

No additional information available

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state : Liquid

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Appearance	: No data available
Color	: Clear Colorless
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: No data available
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)	: No data available
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	: No additional information available
Chemical stability	: No additional information available
Possibility of hazardous reactions	: No additional information available
Conditions to avoid	: No additional information available
Incompatible materials	: No additional information available
Hazardous decomposition products	: No additional information available
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

K-Blue® Select TMB Substrate	
Unknown acute toxicity (GHS CA)	5.5% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 5.5% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 5.5% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))
2-Pyrrolidinone (616-45-5)	
LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: EU Method B.1 (Acute Toxicity (Oral))
LD50 dermal rabbit	> 2000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
Skin corrosion/irritation	: Not classified

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2-Pyrrolidinone (616-45-5)	
pH	8 – 9 (10 %)

Serious eye damage/irritation : Not classified

2-Pyrrolidinone (616-45-5)	
pH	8 – 9 (10 %)

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : May damage fertility or the unborn child.
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

2-Pyrrolidinone (616-45-5)	
NOAEL (oral,rat,90 days)	207 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Aspiration hazard : Not classified

2-Pyrrolidinone (616-45-5)	
Viscosity, kinematic	9.009 mm ² /s

SECTION 12 Ecological information

12.1. Toxicity

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

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

2-Pyrrolidinone (616-45-5)	
LC50 - Fish [1]	4600 – 10000 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Static system, Fresh water, Experimental value)
EC50 - Crustacea [1]	> 500 mg/l (48 h, Daphnia magna, Static system, Fresh water, Experimental value)
ErC50 algae	> 500 mg/l (DIN 38412-9, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value)
EC50 72h - Algae [1]	> 500 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

12.2. Persistence and degradability

K-Blue® Select TMB Substrate	
Persistence and degradability	Not rapidly degradable

2-Pyrrolidinone (616-45-5)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.16 g O ₂ /g substance
Chemical oxygen demand (COD)	1.69 g O ₂ /g substance
ThOD	2.44 g O ₂ /g substance

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according to the Hazardous Products Regulation (WHMIS 2015)

12.3. Bioaccumulative potential

2-Pyrrolidinone (616-45-5)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
BCF - Fish [1]	3.16 l/kg (BCFBAF v3.00, Fresh water, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	-0.71 (Practical experience/observation, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)

12.4. Mobility in soil

2-Pyrrolidinone (616-45-5)	
Mobility in soil	17 Source: National Library of Medicine/Hazardous Substances Data Bank
Ecology - soil	Highly mobile in soil.
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.868 (log Koc, Calculated value)

12.5. Other adverse effects

Ozone : Not classified
Fluorinated greenhouse gases : No

SECTION 13 Disposal considerations

No additional information available

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

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DOT

Not regulated

IMDG

Not regulated

IATA

Not regulated

14.7. Transport in bulk according to Annex II of MARPOL 73/78⁹ and the IBC Code¹⁰

Not applicable

SECTION 15 Regulatory information

2-Pyrrolidinone (616-45-5)

Listed on the Canadian DSL (Domestic Substances List)

2-Pyrrolidinone (616-45-5)

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

Issue date : 12-09-2025

Full text of hazard classes and H-statements:

H319	Causes serious eye irritation
H360	May damage fertility or the unborn child

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.