

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form	: Mixture
Trade name	: Soleris® 2, E. coli Supplement (MUG)
Product code	: S2-ECM
Type of product	: Food Safety -- [Food Safety]
Part Number(s)	: S2-ECM 700003785

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

##### Relevant identified uses

Use of the substance/mixture	: Laboratory chemicals Scientific research and development
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#### 1.3. Details of the supplier of the safety data sheet

##### Manufacturer

Neogen Corporation  
620 Leshar Place  
48912 Lansing, Michigan  
United States of America  
T 800.234.5333  
[sds@neogen.com](mailto:sds@neogen.com), <https://www.neogen.com/>

#### 1.4. Emergency telephone 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)
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### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 3	H226
Serious eye damage/eye irritation, Category 2	H319
Carcinogenicity, Category 1B	H350
Reproductive toxicity, Category 1B	H360
Specific target organ toxicity – Repeated exposure, Category 2	H373
Full text of H- and EUH-statements: see section 16	

##### Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. May cause cancer. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Causes serious eye irritation.

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)	: Danger
Contains	: N,N-dimethylformamide
Hazard statements (CLP)	: H226 - Flammable liquid and vapour. H319 - Causes serious eye irritation. H350 - May cause cancer.

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Precautionary statements (CLP)	H360 - May damage fertility or the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure. : P201 - Obtain special instructions before use. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. P308+P313 - IF exposed or concerned: Get medical advice/attention. P314 - Get medical advice/attention if you feel unwell. P337+P313 - If eye irritation persists: Get medical advice/attention.
Extra phrases	: Restricted to professional users.

### 2.3. Other hazards

Contains no PBT and/or vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	N,N-dimethylformamide (68-12-2)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	N,N-dimethylformamide (68-12-2)

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

Component	
Substance(s) not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605	N,N-dimethylformamide (68-12-2)

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N,N-dimethylformamide substance listed on REACH Candidate List substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FR, GB, GI, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SK, AL, IS, MK, RS, CH); substance with a Community workplace exposure limit	CAS-No.: 68-12-2 EC-No.: 200-679-5 EC Index-No.: 616-001-00-X	$\geq 15 - < 25$	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319 Carc. 1B, H350 Repr. 1B, H360D STOT RE 2, H373
4-Methyl-2-oxo-2H-1-benzopyran-7-yl- $\beta$ -D-glucopyranosiduronic acid ; 4-Methylumbellifery $\beta$ -D-glucuronide	CAS-No.: 6160-80-1 EC-No.: 228-186-0	$\geq 1 - < 5$	Aquatic Chronic 3, H412

Full text of H- and EUH-statements: see section 16

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### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.
Self protection of the first-aider	: First-aiders should pay attention to their own protection and use the recommended personal protective equipment (see section 8).

#### 4.2. Most important symptoms and effects, both 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	: Eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.
Chronic symptoms	: May damage fertility or the unborn child.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

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

#### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Flammable liquid and vapour.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

#### 5.3. Advice for firefighters

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.
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##### For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.

##### For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel. Stop leak if safe to do so.

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### 6.2. Environmental precautions

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

### 6.3. Methods and material 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 without risks if possible.
- 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.

### 6.4. Reference to other sections

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. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.
- 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 : Ground/bond container and receiving equipment.
- Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
- Storage temperature : 2 – 8 °C
- Packaging materials : Always store product in container of same material as original container.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### National occupational exposure and biological limit values

N,N-dimethylformamide (68-12-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	15 mg/m <sup>3</sup>
	5 ppm
IOEL STEL	30 mg/m <sup>3</sup>
	10 ppm
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	N,N Dimethylformamide

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<b>N,N-dimethylformamide (68-12-2)</b>	
BOEL TWA	15 mg/m <sup>3</sup>
	5 ppm
BOEL STEL	30 mg/m <sup>3</sup>
	10 ppm
Notes	Skin (Substantial contribution to the total body burden via dermal exposure possible)
Regulatory reference	DIRECTIVE (EU) 2022/431 (amending Directive 2004/37/EC)
<b>EU - Biological Limit Value (BLV)</b>	
Local name	N,N-Dimethylformamide
BLV	15 mg/l Parameter: N-methylformamide - Medium: urine - Sampling time: post-shift
Regulatory reference	SCOEL List of recommended health-based BLVs and BGVs
<b>Ireland - Occupational Exposure Limits</b>	
Local name	N,N-Dimethylformamide
OEL TWA	15 mg/m <sup>3</sup>
	5 ppm
OEL STEL	30 mg/m <sup>3</sup>
	10 ppm
Remark	BOELV (Binding Occupational Exposure Limit Values), Repr.1B (Substances which are presumed human reproductive toxicants), Skin (Substances which have the capacity to penetrate intact skin when they come in contact with it and be absorbed into the body. A substantial contribution to the total body burden via dermal exposure is possible)
Regulatory reference	Chemical Agents Code of Practice 2024
<b>Ireland - Biological limit values</b>	
Local name	N,N-Dimethylformamide
BMGV	15 mg/l Parameter: N-methylformamide - Medium: urine - Sampling time: Post shift
Regulatory reference	Biological Monitoring Guidelines (HSA, 2011)

## 8.2. Exposure controls

### Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

### Personal protection equipment

#### Personal protective equipment:

Wear recommended personal protective equipment.

#### Personal protective equipment symbol(s):



### Eye and face protection

#### Eye protection:

Safety glasses

### Skin protection

#### Skin and body protection:

Wear suitable protective clothing

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### Hand protection:

Protective gloves

### Respiratory protection

#### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

### Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Clear.
Odour	: Characteristic. Slight.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Flammable liquid and vapour.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not available
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Flammable liquid and vapour.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

No additional information available

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### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)  
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)  
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

#### N,N-dimethylformamide (68-12-2)

LD50 oral rat	3010 mg/kg bodyweight (BASF test, Rat, Male / female, Experimental value, Oral, 7 day(s))
LD50 oral	3000 mg/kg
LD50 dermal rat	> 3160 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LD50 dermal rabbit	4720 mg/kg Source: ChemIDPlus
LD50 dermal	3500 mg/kg
LC50 Inhalation - Rat	> 5.85 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))
LC50 Inhalation - Rat (Vapours)	4.7 mg/l/4h

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)

#### N,N-dimethylformamide (68-12-2)

pH	6.7 (4.0 %)
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Serious eye damage/irritation : Causes serious eye irritation.

#### N,N-dimethylformamide (68-12-2)

pH	6.7 (4.0 %)
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Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)  
Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)  
Carcinogenicity : May cause cancer.

#### N,N-dimethylformamide (68-12-2)

IARC group	2A - Probably carcinogenic to humans
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Reproductive toxicity : May damage fertility or the unborn child.  
STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)  
STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

#### N,N-dimethylformamide (68-12-2)

LOAEL (oral, rat, 90 days)	475 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 28 days)	238 mg/kg bw/day
NOAEL (oral, rat, 90 days)	238 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

#### N,N-dimethylformamide (68-12-2)

Viscosity, kinematic	No data available in the literature
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### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified (Based on available data, the classification criteria are not met)
Hazardous to the aquatic environment, long-term (chronic)	: Not classified (Based on available data, the classification criteria are not met)

#### N,N-dimethylformamide (68-12-2)

LC50 - Fish [1]	7100 mg/l (EPA 600/3-75/009, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	13100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [1]	> 1000 mg/l Source: ECHA
ErC50 algae	> 1000 mg/l (DIN 38412-9, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
LOEC (chronic)	3000 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	1500 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	> 102 mg/l Test organisms (species): Oryzias latipes Duration: '21 d'
NOEC chronic crustacea	1500 mg/l

#### 4-Methyl-2-oxo-2H-1-benzopyran-7-yl-β-D-glucopyranosiduronic acid ; 4-Methylumbellifery β-D-glucuronide (6160-80-1)

LC50 - Fish [1]	178.634 mg/l Source: Ecological Structure Activity Relationships
EC50 96h - Algae [1]	55.971 mg/l Source: Ecological Structure Activity Relationships

### 12.2. Persistence and degradability

#### Soleris® 2, E. coli Supplement (MUG)

Persistence and degradability	Not rapidly degradable
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#### N,N-dimethylformamide (68-12-2)

Persistence and degradability	Biodegradable in the soil, Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.9 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	0.3645 g O <sub>2</sub> /g substance
ThOD	1.863 g O <sub>2</sub> /g substance

#### 4-Methyl-2-oxo-2H-1-benzopyran-7-yl-β-D-glucopyranosiduronic acid ; 4-Methylumbellifery β-D-glucuronide (6160-80-1)

Persistence and degradability	Not rapidly degradable
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### 12.3. Bioaccumulative potential

#### N,N-dimethylformamide (68-12-2)

BCF - Fish [1]	0.3 – 1.2 l/kg (OECD 305: Bioconcentration: Flow-Through Fish Test, 56 day(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value, Test duration: 8 weeks)
Partition coefficient n-octanol/water (Log Pow)	-1.01 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

#### 4-Methyl-2-oxo-2H-1-benzopyran-7-yl-β-D-glucopyranosiduronic acid ; 4-Methylumbellifery β-D-glucuronide (6160-80-1)

Partition coefficient n-octanol/water (Log Pow)	-0.2668 Source: Quantitative Structure Activity Relation
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### 12.4. Mobility in soil

#### N,N-dimethylformamide (68-12-2)

Surface tension	35.5 mN/m (2520 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.38 (log Koc, PCKOCWIN v1.66, QSAR)
Ecology - soil	Highly mobile in soil.

#### 4-Methyl-2-oxo-2H-1-benzopyran-7-yl-β-D-glucopyranosiduronic acid ; 4-Methylumbellifery β-D-glucuronide (6160-80-1)

Mobility in soil	0.1211 Source: EPI Suite
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### 12.5. Results of PBT and vPvB assessment

#### Component

Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	N,N-dimethylformamide (68-12-2)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	N,N-dimethylformamide (68-12-2)

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

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	: Flammable vapours may accumulate in the container. 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.

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HP Code	<p>: HP3 - "Flammable:"</p> <ul style="list-style-type: none"> <li>– flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point &gt; 55 °C and ≤ 75 °C;</li> <li>– flammable pyrophoric liquid and solid waste: solid or liquid waste which, even in small quantities, is liable to ignite within five minutes after coming into contact with air;</li> <li>– flammable solid waste: solid waste which is readily combustible or may cause or contribute to fire through friction;</li> <li>– flammable gaseous waste: gaseous waste which is flammable in air at 20 °C and a standard pressure of 101.3 kPa;</li> <li>– water reactive waste: waste which, in contact with water, emits flammable gases in dangerous quantities;</li> <li>– other flammable waste: flammable aerosols, flammable self-heating waste, flammable organic peroxides and flammable self-reactive waste.</li> </ul> <p>HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.</p> <p>HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure.</p> <p>HP7 - "Carcinogenic:" waste which induces cancer or increases its incidence</p> <p>HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye.</p>
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### SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
UN 2265	UN 2265	UN 2265	UN 2265	UN 2265
<b>14.2. UN proper shipping name</b>				
N,N-DIMETHYLFORMAMIDE	N,N-DIMETHYLFORMAMIDE	n,n-Dimethylformamide	N,N-DIMETHYLFORMAMIDE	N,N-DIMETHYLFORMAMIDE
<b>Transport document description</b>				
UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III, (D/E)	UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III (58°C c.c.)	UN 2265 n,n-Dimethylformamide, 3, III	UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III	UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III
<b>14.3. Transport hazard class(es)</b>				
3	3	3	3	3
				
<b>14.4. Packing group</b>				
III	III	III	III	III
<b>14.5. Environmental hazards</b>				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No EmS-No. (Fire): F-E EmS-No. (Spillage): S-D	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				



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### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR)	: F1
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T2
Portable tank and bulk container special provisions (ADR)	: TP2
Tank code (ADR)	: LGBF
Vehicle for tank carriage	: FL
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Operation (ADR)	: S2
Hazard identification number (Kemler No.)	: 30
Orange plates	:  
Tunnel restriction code (ADR)	: D/E

#### Transport by sea

Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T2
Tank special provisions (IMDG)	: TP2
Stowage category (IMDG)	: A
Flash point (IMDG)	: 58°C c.c.
Properties and observations (IMDG)	: Colourless liquid. Flashpoint: 58°C c.c. Explosive limits: 2.2% to 16%. Miscible with water. May react violently with oxidizing materials.
MFAG-No	: 129

#### Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y344
PCA limited quantity max net quantity (IATA)	: 10L
PCA packing instructions (IATA)	: 355
PCA max net quantity (IATA)	: 60L
CAO packing instructions (IATA)	: 366
CAO max net quantity (IATA)	: 220L
ERG code (IATA)	: 3L

#### Inland waterway transport

Classification code (ADN)	: F1
Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 0

#### Rail transport

Classification code (RID)	: F1
Limited quantities (RID)	: 5L
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T2

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## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Portable tank and bulk container special provisions (RID) : TP2  
Tank codes for RID tanks (RID) : LGBF  
Transport category (RID) : 3  
Special provisions for carriage – Packages (RID) : W12  
Colis express (express parcels) (RID) : CE4  
Hazard identification number (RID) : 30

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU-Regulations

##### REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
28.	N,N-dimethylformamide	Substances which are classified as carcinogen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 1 or Appendix 2, respectively.
3(a)	Soleris® 2, E. coli Supplement (MUG) ; N,N-dimethylformamide	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F
3(b)	Soleris® 2, E. coli Supplement (MUG) ; N,N-dimethylformamide	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
30.	N,N-dimethylformamide	Substances which are classified as reproductive toxicant category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 5 or Appendix 6, respectively.
76.	N,N-dimethylformamide	N,N-dimethylformamide

##### REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Contains substance(s) listed on the REACH Candidate List in concentrations  $\geq 0.1\%$  or SCL: N,N-dimethylformamide (EC 200-679-5, CAS 68-12-2)

##### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

##### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

##### Ozone Regulation (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

##### Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

##### Explosives Precursors Regulation (EU 2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

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### Drug Precursors Regulation (EC 273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Abbreviations and acronyms:	
ACGIH	American Conference of Governmental Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstracts Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development

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Abbreviations and acronyms:	
OEL	Occupational Exposure Limit
OSHA	Occupational Safety Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Full text of H- and EUH-statements:	
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Carc. 1B	Carcinogenicity, Category 1B
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 1B	Reproductive toxicity, Category 1B
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
H226	Flammable liquid and vapour.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H350	May cause cancer.
H360	May damage fertility or the unborn child.
H360D	May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

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.