

1 Identification

- **Product identifier**
- **Product Name:** Stock Organic Standard
- **Part Name:** FLAVIN-1
- **Application of the substance / the mixture** Certified Reference Material
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Spex CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
732-549-7144
USMet-CRMSales@antylia.com
- **Information department:** product safety department
- **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Carcinogenicity 2 H351 Suspected of causing cancer.



GHS07

Skin Irritation 2 H315 Causes skin irritation.

Eye Irritation 2A H319 Causes serious eye irritation.

- **Label elements**

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07



GHS08

- **Signal word** Warning

- **Hazard-determining components of labeling:**

dimethyl sulfoxide

1,2-dihydroxybenzene

3,3',4',5,7-pentahydroxyflavone

Rutin

- **Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H351 Suspected of causing cancer.

- **Precautionary statements**

P201

Obtain special instructions before use.

P202

Do not handle until all safety precautions have been read and understood.

P264

Wash thoroughly after handling.

P280

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

P302+P352

If on skin: Wash with plenty of water.

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.

P321

Specific treatment (see on this label).

P362+P364

Take off contaminated clothing and wash it before reuse.

P332+P313

If skin irritation occurs: Get medical advice/attention.

P337+P313

If eye irritation persists: Get medical advice/attention.

P405

Store locked up.

P501

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

Printing date 08/10/2023

Reviewed on 08/10/2023

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- Classification system:
- NFPA ratings (scale 0 - 4)



- HMIS-ratings (scale 0 - 4)



- Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

67-68-5	dimethyl sulfoxide	98.5%
117-39-5	3,3',4',5,7-pentahydroxyflavone	0.1%
120-80-9	1,2-dihydroxybenzene	0.1%

· Chemical identification of the substance/preparation

153-18-4	Rutin	0.1%
154-23-4	cianidanol	0.1%
480-40-0	Chrysin	0.1%
490-46-0	2-(3,4-dihydroxyphenyl)-2,3,4-trihydro-3,5,7-trihydroxychromene	0.1%
491-70-3	2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-4-benzopyrone	0.1%
520-18-3	3,4',5,7-tetrahydroxyflavone	0.1%
520-36-5	5,7-dihydroxy-2-(4-hydroxyphenyl)-4-benzopyrone	0.1%
529-44-2	Myricetin	0.1%
989-51-5	benzoic acid, 3,4,5-trihydroxy-, (2R,3R)-3,4-dihydro-5,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)-2H-1-benzopyran-3-yl ester	0.1%
3681-93-4	Vitexin	0.1%
21967-41-9	β-D-glucopyranosiduronic acid, 5,6-dihydroxy-4-oxo-2-phenyl-4H-1-benzopyran-7-yl	0.1%
28608-75-5	Orientin	0.1%
38953-85-4	Isovitexin	0.1%

4 First-aid measures

- Description of first aid measures
- General information: Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Immediately rinse with water.
- After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: Do not give anything to eat or drink - Do not induce vomiting
- 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: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures Not required.

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- **Environmental precautions:** Dilute with plenty of water.
- **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 section 13.
- **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.
- **Protective Action Criteria for Chemicals**

· PAC-1:		
67-68-5	dimethyl sulfoxide	150 ppm
120-80-9	1,2-dihydroxybenzene	15 ppm
· PAC-2:		
67-68-5	dimethyl sulfoxide	290 ppm
120-80-9	1,2-dihydroxybenzene	96 ppm
· PAC-3:		
67-68-5	dimethyl sulfoxide	1,800 ppm
120-80-9	1,2-dihydroxybenzene	570 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Open and handle receptacle with care.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **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 section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

67-68-5 dimethyl sulfoxide	
WEEL	Long-term value: 250 ppm
120-80-9 1,2-dihydroxybenzene	
REL	Long-term value: 20 mg/m ³ , 5 ppm Skin
TLV	Long-term value: 5 ppm Skin, A3

- **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.
Avoid contact with the eyes and skin.
- **Respiratory protection:** Not required.
- **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.

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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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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.

Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

Information on basic physical and chemical properties	
General Information	
Appearance:	
Form:	Liquid
Color:	According to product specification
Odor:	Characteristic
Odour Threshold:	Not applicable.
pH-value:	Not applicable.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	189 °C (372.2 °F)
Flash point:	> 60 °C (> 140 °F)
Flammability (solid, gaseous):	Not applicable.
Auto igniting:	270 °C (518 °F)
Decomposition temperature:	Not applicable.
Ignition temperature:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	1.8 Vol %
Upper:	63 Vol %
Vapor pressure at 20 °C (68 °F):	2.5 hPa (1.9 mm Hg)
Density	Not applicable.
Relative density	Not applicable.
Vapor density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/water): Not applicable.	
Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
Solvent content:	
Organic solvents:	98.5 %
VOC content:	98.50 %
Solids content:	0.1 %
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.

Incompatible materials: No further relevant information available.

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· **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:**

67-68-5 dimethyl sulfoxide

Oral	LD50	14,500 mg/kg (rat)
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· **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:**

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

117-39-5	3,3',4',5,7-pentahydroxyflavone	3
120-80-9	1,2-dihydroxybenzene	2B
520-18-3	3,4',5,7-tetrahydroxyflavone	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **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 hazardous for 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.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· UN-Number · DOT, ADR, IMDG, IATA	Not Regulated
· UN proper shipping name · DOT, ADR, IMDG, IATA	Not Regulated
· Transport hazard class(es) · DOT, ADR, ADN, IMDG, IATA · Class	Not Regulated
· Packing group · DOT, ADR, IMDG, IATA	Not Regulated
· Environmental hazards:	Not applicable.

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· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	Not Regulated

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture** No further relevant information available.
- **Sara**

· Section 313 (Specific toxic chemical listings):	
120-80-9	1,2-dihydroxybenzene

· TSCA (Toxic Substances Control Act):		
67-68-5	dimethyl sulfoxide	ACTIVE
117-39-5	3,3',4',5,7-pentahydroxyflavone	ACTIVE
120-80-9	1,2-dihydroxybenzene	ACTIVE
153-18-4	Rutin	ACTIVE

· Hazardous Air Pollutants	
120-80-9	1,2-dihydroxybenzene

· Proposition 65

· Chemicals known to cause cancer:	
120-80-9	1,2-dihydroxybenzene

· Chemicals known to cause reproductive toxicity for females:	
None of the ingredients is listed.	

· Chemicals known to cause reproductive toxicity for males:	
None of the ingredients is listed.	

· Chemicals known to cause developmental toxicity:	
None of the ingredients is listed.	

· Carcinogenic categories

· EPA (Environmental Protection Agency)	
None of the ingredients is listed.	

· TLV (Threshold Limit Value)		
120-80-9	1,2-dihydroxybenzene	A3

· NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed.	

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



GHS07 GHS08

- **Signal word** Warning

· Hazard-determining components of labeling:

dimethyl sulfoxide
1,2-dihydroxybenzene
3,3',4',5,7-pentahydroxyflavone
Rutin

· Hazard statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.

· Precautionary statements

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 If on skin: Wash with plenty of water.
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.
P321 Specific treatment (see on this label).

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Reviewed on 08/10/2023

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- P362+P364 Take off contaminated clothing and wash it before reuse.
 - P332+P313 If skin irritation occurs: Get medical advice/attention.
 - P337+P313 If eye irritation persists: Get medical advice/attention.
 - P405 Store locked up.
 - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **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 SDS:** product safety department

· **Contact:**

Spex CertiPrep, LLC.
1-732-549-7144

· **Date of preparation / last revision** 08/10/2023

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

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

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

Carcinogenicity 2: Carcinogenicity – Category 2