Drabkin's Reagent

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS 2024)
Issue date: 6/8/2026 Version: 1.0

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : Drabkin's Reagent
Product code : 1D0300

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : For laboratory and manufacturing use only,For professional use only
Restrictions on use : Not for food, drug or household use

1.4. Supplier's details

Ethos Biosciences, Inc.
2070 Center Square Road
Logan Township, New Jersey 08085
United States
T +1-856-224-0900; +1-800-441-0366 Technical Service; Monday-Friday: 8:00 AM-5:00 PM, Eastern US Time
www.ethosbiosciences.com

1.5. Emergency phone number

Emergency number : 800-424-9300 CHEMTREC (USA) -- 24 Hours/Day, 7 Days/Week

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Corrosive to metals, Category 1	H290	May be corrosive to metals.

Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Warning
Hazard statements (GHS US) : H290 - May be corrosive to metals
Precautionary statements (GHS US) : P234 - Keep only in original packaging.
P390 - Absorb spillage to prevent material-damage.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	Conc.	GHS US classification
water	CAS-No.: 7732-18-5	> 99	Not classified
tripotassium hexacyanoferrate	CAS-No.: 13746-66-2	≤ 0.02	Eye Irrit. 2, H319
polyoxyethylene(23)lauryl ether	CAS-No.: 9002-92-0	≤ 0.015	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319
potassium dihydrogenorthophosphate	CAS-No.: 7778-77-0	≤ 0.014	Not classified
potassium cyanide	CAS-No.: 151-50-8	≤ 0.005	Met. Corr. 1, H290 Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 1 (Inhalation), H330 Acute Tox. 2 (Inhalation:dust,mist), H330 Eye Irrit. 2, H319 STOT SE 2, H371 STOT RE 1, H372

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 general : If you feel unwell, seek medical advice.
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.
Personal protection for first-aid responders. : First-aiders should consider self-protection and use the recommended personal protective equipment (see section 8).

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.

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 (and unsuitable) 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 equipment and precautions 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.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area.

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.
Environmental precautions : Avoid release to the environment.

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.
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. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.
Storage conditions : Store in corrosive resistant container with a resistant inner liner. Keep only in original container.
Incompatible materials for storage : Metals.

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

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

tripotassium hexacyanoferrate (13746-66-2)	
USA - ACGIH® - Threshold Limit Values	
ACGIH® TLV® TWA	1 mg/m³
ACGIH® TLV® C	5 mg/m³

potassium cyanide (151-50-8)	
USA - ACGIH® - Threshold Limit Values	
ACGIH® TLV® C	5 mg/m³

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

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 insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state : Liquid
Color : No data available
Odor : No data available
Odor threshold : No data available
pH : No data available
Melting point : Not applicable
Freezing point : No data available

Boiling point	:	No data available
Flash point	:	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	:	Water: Solubility in water of component(s) of the mixture : • tripotassium hexacyanoferrate: 36.3 g/100ml • polyoxyethylene(23)lauryl ether: 4 g/100ml • potassium dihydrogenorthophosphate: 21 g/100ml • potassium cyanide: 40 g/100ml
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Explosion limits	:	No data available
Particle characteristics	:	No data available

tripotassium hexacyanoferrate	
Boiling point	Not applicable (decomposes), EU Method A.2: Boiling point
Flash point	Not applicable
Auto-ignition temperature	Not applicable, EU Method A.16: Relative Self-Ignition Temperature for Solids
Vapor pressure	< 0.01 hPa (20 °C)

polyoxyethylene(23)lauryl ether	
Boiling point	> 100 °C
Flash point	138 °C (995 hPa)
Vapor pressure	0.0000235 hPa (25 °C, MPBPWin v1.43, EpiSuite)

potassium dihydrogenorthophosphate	
Boiling point	> 450 °C (1013 hPa, EU Method A.2: Boiling point)
Flash point	Not applicable (solid)
Auto-ignition temperature	Not applicable
Vapor pressure	< 0.01 hPa (25 °C, EU Method A.4: Vapour Pressure)

potassium cyanide	
Boiling point	Not applicable (melting point > 300 °C)
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Vapor pressure	< 0.1 hPa (20 °C)

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

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

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

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

metals.

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 toxicological effects

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

tripotassium hexacyanoferrate (13746-66-2)	
LD50 oral rat	> 5110 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))

polyoxyethylene(23)lauryl ether (9002-92-0)	
LD50 oral rat	1000 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Skin, 14 day(s))
ATE US (oral)	1000 mg/kg body weight

potassium dihydrogenorthophosphate (7778-77-0)	
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 0.83 mg/l air (EPA OPP 81-3: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust), 14 day(s))

potassium cyanide (151-50-8)	
LD50 oral rat	7.49 mg/kg (Rat, Female, Experimental value, Oral)
LD50 dermal rabbit	14.29 – 22.33 mg/kg (< 6 h, Rabbit, Female, Experimental value, Dermal)
LC50 Inhalation - Rat	0.144 mg/l (Equivalent or similar to OECD 403, 1 h, Rat, Read-across, Inhalation (dust))
ATE US (oral)	7.49 mg/kg body weight
ATE US (dermal)	18.31 mg/kg body weight
ATE US (gases)	10 ppmV/4h

potassium cyanide (151-50-8)	
ATE US (vapors)	0.144 mg/l/4h
ATE US (dust, mist)	0.144 mg/l/4h

Skin corrosion/irritation : Not classified

tripotassium hexacyanoferrate (13746-66-2)	
pH	8 (10 %)

potassium dihydrogenorthophosphate (7778-77-0)	
pH	4.5 (1 %)

potassium cyanide (151-50-8)	
pH	11 (0.65 %)

Serious eye damage/irritation : Not classified

tripotassium hexacyanoferrate (13746-66-2)	
pH	8 (10 %)

potassium dihydrogenorthophosphate (7778-77-0)	
pH	4.5 (1 %)

potassium cyanide (151-50-8)	
pH	11 (0.65 %)

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified

potassium cyanide (151-50-8)	
STOT-single exposure	May cause damage to organs.

STOT-repeated exposure : Not classified

potassium cyanide (151-50-8)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

tripotassium hexacyanoferrate (13746-66-2)	
Viscosity, kinematic	Not applicable (solid)
polyoxyethylene(23)lauryl ether (9002-92-0)	
Viscosity, kinematic	102.159 mm²/s (20 °C, OECD 114: Viscosity of Liquids)
potassium dihydrogenorthophosphate (7778-77-0)	
Viscosity, kinematic	Not applicable (solid)
potassium cyanide (151-50-8)	
Viscosity, kinematic	Not applicable

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.

SECTION 12 Ecological information

12.1. Ecotoxicity

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

tripotassium hexacyanoferrate (13746-66-2)	
EC50 - Crustacea [1]	59 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]	1.7 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)

polyoxyethylene(23)lauryl ether (9002-92-0)	
LC50 - Fish [1]	2.427 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Semi-static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	9.131 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration)
ErC50 algae	0.237 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value)

potassium dihydrogenorthophosphate (7778-77-0)	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	> 100 mg/l (EU Method C.3, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)

potassium cyanide (151-50-8)	
LC50 - Fish [1]	98.8 µg/l (ASTM E729-96, 96 h, Gasterosteus aculeatus, Flow-through system, Fresh water, Read-across, Cyanide ion)
ErC50 algae	0.116 mg/l (ISO 8692, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Cyanide ion)

12.2. Persistence and degradability

Drabkin's Reagent	
Persistence and degradability	Not rapidly degradable

water (7732-18-5)	
Persistence and degradability	Not rapidly degradable

tripotassium hexacyanoferrate (13746-66-2)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

tripotassium hexacyanoferrate (13746-66-2)	
BOD (% of ThOD)	Not applicable

polyoxyethylene(23)lauryl ether (9002-92-0)	
Persistence and degradability	Readily biodegradable in water.

potassium dihydrogenorthophosphate (7778-77-0)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

potassium cyanide (151-50-8)	
Persistence and degradability	Inherently biodegradable.
Chemical oxygen demand (COD)	0.614 g O_2/g substance
BOD (% of ThOD)	0 (7 day(s), Literature study)

12.3. Bioaccumulative potential

tripotassium hexacyanoferrate (13746-66-2)	
Bioaccumulative potential	No bioaccumulation data available.

polyoxyethylene(23)lauryl ether (9002-92-0)	
BCF - Fish [1]	81 l/kg (Pisces, Fresh water, Literature study, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	2.26 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

potassium dihydrogenorthophosphate (7778-77-0)	
Bioaccumulative potential	Not bioaccumulative.

potassium cyanide (151-50-8)	
BCF - Other aquatic organisms [1]	3.162 l/kg (BCFBAF v3.00, Read-across, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	-0.25 (Similar product, Literature, 20 °C)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

tripotassium hexacyanoferrate (13746-66-2)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.

polyoxyethylene(23)lauryl ether (9002-92-0)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.643 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value)
Ecology - soil	Highly mobile in soil.

potassium dihydrogenorthophosphate (7778-77-0)	
Surface tension	No data available in the literature

potassium dihydrogenorthophosphate (7778-77-0)	
Ecology - soil	No (test)data on mobility of the substance available.

potassium cyanide (151-50-8)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.4534 (log Koc, SRC PCKOCWIN v2.0, QSAR)
Ecology - soil	Highly mobile in soil.

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 DOT / TDG / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT) : Not regulated
Proper Shipping Name (TDG) : Not regulated
Proper Shipping Name (IMDG) : Not regulated
Proper Shipping Name (IATA) : Not regulated

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not regulated

TDG
Transport hazard class(es) (TDG) : Not regulated

IMDG
Transport hazard class(es) (IMDG) : Not regulated

IATA
Transport hazard class(es) (IATA) : Not regulated

14.4. Packing group

Packing group (DOT) : Not regulated
Packing group (TDG) : Not regulated

Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT
Not regulated

TDG
Not regulated

IMDG
Not regulated

IATA
Not regulated

SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.		
potassium cyanide	CAS-No. 151-50-8	≤ 0.005%

potassium cyanide (151-50-8)	
CERCLA RQ	10 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	10 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	100 lb

15.2. International regulations

CANADA

water (7732-18-5)
Listed on the Canadian DSL (Domestic Substances List)

tripotassium hexacyanoferrate (13746-66-2)
Listed on the Canadian DSL (Domestic Substances List)

polyoxyethylene(23)lauryl ether (9002-92-0)
Listed on the Canadian DSL (Domestic Substances List)

potassium dihydrogenorthophosphate (7778-77-0)
Listed on the Canadian DSL (Domestic Substances List)

potassium cyanide (151-50-8)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

water (7732-18-5)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

polyoxyethylene(23)lauryl ether (9002-92-0)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

potassium dihydrogenorthophosphate (7778-77-0)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

potassium cyanide (151-50-8)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. State regulations

WARNING: This product can expose you to Potassium cyanide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
potassium cyanide(151-50-8)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16 Other information

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS 2024)
Issue date : 6/8/2026

Full text of hazard classes and H-statements	
H290	May be corrosive to metals
H300	Fatal if swallowed
H302	Harmful if swallowed
H310	Fatal in contact with skin
H319	Causes serious eye irritation

Full text of hazard classes and H-statements	
H330	Fatal if inhaled
H371	May cause damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure

Safety Data Sheet (SDS), USA

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