SAFETY DATA SHEET

According to JIS Z 7253:2019
Revision date 13-May-2024
Revision Number 1

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	LabAssay™ Ammonia
Product Code	297-94601

Supplier
FUJIFILM Wako Pure Chemical Corporation
1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan
Phone: +81-6-6203-3741
Fax: +81-6-6203-2029

Emergency telephone number +81-6-6203-3741 / +81-3-3270-8571

Recommended uses For research use only

Restrictions on use Seek expert judgment when using for purposes other than those recommended.

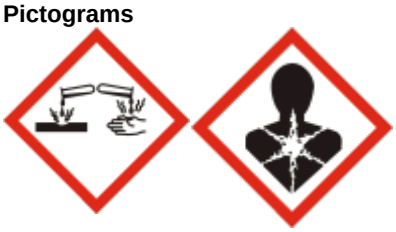
Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

Corrosive to metals	Category 1
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Germ cell mutagenicity	Category 2
Reproductive Toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 1
Category 1 respiratory system	
Specific target organ toxicity (repeated exposure)	Category 1
Category 1 respiratory system	
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 3

Pictograms



Signal word Danger

Hazard statements

H290 - May be corrosive to metals
H315 - Causes skin irritation
H318 - Causes serious eye damage
H341 - Suspected of causing genetic defects
H360 - May damage fertility or the unborn child
H401 - Toxic to aquatic life
H412 - Harmful to aquatic life with long lasting effects
H370 - Causes damage to the following organs: respiratory system
H372 - Causes damage to the following organs through prolonged or repeated exposure: respiratory system

Precautionary statements-(Prevention)

• Obtain special instructions before use

- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- Do not breathe dust/fume/gas/mist/vapors/spray
- Do not eat, drink or smoke when using this product
- Avoid release to the environment
- Keep only in original container

Precautionary statements-(Response)

- IF exposed: Call a POISON CENTER or doctor/physician
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- Immediately call a POISON CENTER or doctor/physician
- IF ON SKIN: Wash with plenty of soap and water
- If skin irritation occurs: Get medical advice/attention
- Take off contaminated clothing and wash before reuse
- Absorb spillage to prevent material damage

Precautionary statements-(Storage)

- Store locked up
- Store in corrosive resistant/ container with a resistant inner liner

Precautionary statements-(Disposal)

- Dispose of contents/container to an approved waste disposal plant

Others

Other hazards Not available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Kit (Set of mixtures)

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS RN
Deproteinizing Reagent	-	N/A	N/A	N/A	N/A-29-9461
Chromogen Reagent A	-	N/A	N/A	N/A	N/A-29-9462
Chromogen Reagent B	-	N/A	N/A	N/A	N/A-29-9463
Chromogen Reagent C	-	N/A	N/A	N/A	N/A-29-9464
Standard Solution	-	N/A	N/A	N/A	N/A-29-9465
Dilute Solution For Standard	-	N/A	N/A	N/A	N/A-29-9466

Note on ISHL No.: * in the table means announced chemical substances.

Substances Remarks: This Product includes the following componets. Sodium tungstate(VI) dihydrate 5.0%, Sulfuric Acid 1.5%, Phenol 4.0%, Sodium pentacyanonitrosylferrate(III) dihydrate 0.015%, Potassium hydroxide 4.8%, Potassium Carbonate <30%, Sodium hypochlorite <0.50%

Section 4: FIRST AID MEASURES

Inhalation

Remove to fresh air. If symptoms persist, call a physician.

Skin contact

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

Ingestion

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Protection of first-aiders

Use personal protective equipment as required.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media

Water spray (fog), Carbon dioxide (CO2), Foam, Extinguishing powder, Sand

Unsuitable extinguishing media

No information available

Specific hazards arising from the chemical product

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Special extinguishing method

No information available

Special protective actions for fire-fighters

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for contaminent and methods and materials for cleaning up

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

Recoverly, neutralization

No information available

Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE

Handling

Technical measures

Avoid contact with metal. Use with local exhaust ventilation.

Precautions

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

Safety handling precautions

Use personal protective equipment as required.

Storage

Safe storage conditions

Storage conditions	Store away from sunlight in a cool (2-10 °C) well-ventilated dry place. Store locked up.
Safe packaging material	No information available
Incompatible substances	Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
Sodium tungstate(VI) dihydrate 10213-10-2	N/A	N/A	TWA: 3 mg/m³ W respirable particulate matter in the absence of cobalt
Potassium Hydroxide 1310-58-3	Ceiling: 2 mg/m³	N/A	Ceiling: 2 mg/m³
Phenol 108-95-2	TWA: 5 ppm OEL TWA: 19 mg/m³ OEL Skin	N/A	TWA: 5 ppm Skin
Sulfuric Acid 7664-93-9	Ceiling: 1 mg/m³	N/A	TWA 0.2mg/m³
Sodium pentacyanonitrosylferrate(III) dihydrate 13755-38-9	N/A	N/A	TWA: 1 mg/m³ Fe

Personal protective equipment

Respiratory protection Gas mask for acidic gas (JIS T 8152)
Hand protection chemical protective gloves (JIS T 8116)
Eye protection protective eyeglasses or chemical safety goggles (JIS T 8147)
Skin and body protection Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.
If this product is classified as ”Chemical Substances Hazardous to Skin, etc.”, use appropriate protective equipment to them.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form	
Appearance	Kit (Set of mixtures)
Odor	no data available
Melting point/freezing point	no data available
Boiling point, initial boiling point and boiling range	no data available
Flammability	no data available
Evaporation rate:	no data available
Flammability (solid, gas):	no data available
Upper/lower flammability or explosive limits	
Upper：	no data available
Lower：	no data available
Flash point	no data available
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH	no data available
Viscosity (coefficient of viscosity)	no data available
Dynamic viscosity	no data available
Solubilities	No data available
n-Octanol/water partition coefficient:(log Pow)	no data available
Vapour pressure	no data available
Specific Gravity / Relative density	no data available
Vapour density	no data available
Particle characteristics	no data available

Section 10: STABILITY AND REACTIVITY

Stability

Reactivity no data available
Chemical stability Stable under recommended storage conditions.

Hazardous reactions
Corrodes metals to generate hydrogen gas.

Conditions to avoid
Extremes of temperature and direct sunlight

Incompatible materials
Strong oxidizing agents

Hazardous decomposition products
Carbon monooxide (CO), Carbon dioxide (CO2), Metal oxides, Sulfur oxides (SOx), Halides

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium Carbonate	1870 mg/kg (Rat)	N/A	>500 mg/m³ (Rat)
Potassium Hydroxide	273 mg/kg (Rat)	N/A	N/A
Phenol	340 - 530 mg/kg (Rat)	630 mg/kg (Rabbit) 525 - 714 mg/kg (Rat)	> 900 mg/m³ (Rat) 8 h
Sulfuric Acid	2140 mg/kg (Rat)	N/A	0.375 mg/L (Rat) 4 h
Sodium Hypochlorite	8800 mg/kg (Rat)	> 10000 mg/kg (Rabbit)	> 10.5 mg/L (Rat) 1 h
Sodium pentacyanonitrosylferrate(III) dihydrate	113 mg/kg (Rat)	N/A	N/A

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
Potassium Carbonate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Potassium Hydroxide	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Phenol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Sodium Hypochlorite	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Sodium pentacyanonitrosylferrate(III) dihydrate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
Potassium Carbonate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Potassium Hydroxide	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Phenol	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Sodium Hypochlorite	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.
Sodium pentacyanonitrosylferrate(III) dihydrate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Skin irritation/corrosion

Chemical Name	Skin corrosion/irritation source information
Potassium Carbonate	Based on the NITE GHS classification results.
Potassium Hydroxide	Based on the NITE GHS classification results.

Phenol	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.
Sodium Hypochlorite	Based on the NITE GHS classification results.
Sodium pentacyanonitrosylferrate(III) dihydrate	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
Potassium Carbonate	Based on the NITE GHS classification results.
Potassium Hydroxide	Based on the NITE GHS classification results.
Phenol	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.
Sodium Hypochlorite	Based on the NITE GHS classification results.
Sodium pentacyanonitrosylferrate(III) dihydrate	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
Potassium Carbonate	Based on the NITE GHS classification results.
Potassium Hydroxide	Based on the NITE GHS classification results.
Phenol	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.
Sodium Hypochlorite	Based on the NITE GHS classification results.
Sodium pentacyanonitrosylferrate(III) dihydrate	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagencity source information
Potassium Carbonate	Based on the NITE GHS classification results.
Potassium Hydroxide	Based on the NITE GHS classification results.
Phenol	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.
Sodium Hypochlorite	Based on the NITE GHS classification results.
Sodium pentacyanonitrosylferrate(III) dihydrate	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
Potassium Carbonate	Based on the NITE GHS classification results.
Potassium Hydroxide	Based on the NITE GHS classification results.
Phenol	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.
Sodium Hypochlorite	Based on the NITE GHS classification results.
Sodium pentacyanonitrosylferrate(III) dihydrate	Based on the NITE GHS classification results.

Chemical Name	NTP	IARC	ACGIH	JSOH (Japan)
Phenol 108-95-2	N/A	Group 3	N/A	N/A
Sulfuric Acid 7664-93-9	-	Group 1	A2	-
Sodium Hypochlorite 7681-52-9	N/A	Group 3	N/A	-

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Potassium Carbonate	Based on the NITE GHS classification results.
Potassium Hydroxide	Based on the NITE GHS classification results.
Phenol	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.
Sodium Hypochlorite	Based on the NITE GHS classification results.
Sodium pentacyanonitrosylferrate(III) dihydrate	Based on the NITE GHS classification results.

STOT-single exposure

Chemical Name	STOT -single exposure- source information
Potassium Carbonate	Based on the NITE GHS classification results.
Potassium Hydroxide	Based on the NITE GHS classification results.
Phenol	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.

Sodium Hypochlorite	Based on the NITE GHS classification results.
Sodium pentacyanonitrosylferrate(III) dihydrate	Based on the NITE GHS classification results.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
Potassium Carbonate	Based on the NITE GHS classification results.
Potassium Hydroxide	Based on the NITE GHS classification results.
Phenol	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.
Sodium Hypochlorite	Based on the NITE GHS classification results.
Sodium pentacyanonitrosylferrate(III) dihydrate	Based on the NITE GHS classification results.

Aspiration hazard

Chemical Name	Aspiration Hazard source information
Potassium Carbonate	Based on the NITE GHS classification results.
Potassium Hydroxide	Based on the NITE GHS classification results.
Phenol	Based on the NITE GHS classification results.
Sulfuric Acid	Based on the NITE GHS classification results.
Sodium Hypochlorite	Based on the NITE GHS classification results.
Sodium pentacyanonitrosylferrate(III) dihydrate	Based on the NITE GHS classification results.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Potassium Carbonate	*N/A*	*N/A*	*LC50 : Ceriodaphnia dubia 630 mg/L 48 h*
Phenol	*EC50 : Desmodesmus subspicatus 187 - 279 mg/L 72 h static*	*LC50 : Oncorhynchus mykiss 4.23 - 7.49 mg/L 96 h*	*LC50 : Ceriodaphnia dubia 3.1 mg/L 48 h*
Sulfuric Acid	*N/A*	*LC50:Lepomis macrochirus 16 - 28 mg/L 96 h*	*LC50:Daphnia magna 29 mg/L 24 h*
Sodium Hypochlorite	*N/A*	*LC50: 0.06 - 0.11mg/L (96h, Pimephales promelas) LC50: 4.5 - 7.6mg/L (96h, Pimephales promelas) LC50: 0.4 - 0.8mg/L (96h, Lepomis macrochirus) LC50: 0.28 - 1mg/L (96h, Lepomis macrochirus) LC50: 0.05 - 0.771mg/L (96h, Oncorhynchus mykiss) LC50: 0.03 - 0.19mg/L (96h, Oncorhynchus mykiss) LC50: 0.18 - 0.22mg/L (96h, Oncorhynchus mykiss)*	*LC50:Ceriodaphnia cf. dubia 5 ugFAC/L 24h*

Other data

Chemical Name	Short-term (acute) hazardous to the aquatic environment source information	Long-term (chronic) hazardous to the aquatic environment source information
Potassium Carbonate	Based on the NITE GHS classification results	Based on the NITE GHS classification results
Potassium Hydroxide	Based on the NITE GHS classification results	Based on the NITE GHS classification results
Phenol	Based on the NITE GHS classification results	Based on the NITE GHS classification results
Sulfuric Acid	Based on the NITE GHS classification results	Based on the NITE GHS classification results
Sodium Hypochlorite	Based on the NITE GHS classification results	Based on the NITE GHS classification results
Sodium pentacyanonitrosylferrate(III) dihydrate	Based on the NITE GHS classification	Based on the NITE GHS classification

	results	results

Persistence and degradability No information available
Bioaccumulative potential No information available
Mobility in soil No information available
Hazard to the ozone layer No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues
Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated container and contaminated packaging
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

ADR/RID
UN number UN1760
Proper shipping name: Corrosive liquid, n.o.s. (Diluted Sulfuric Acid Solution)
UN classfication 8
Subsidiary hazard class
Packing group III
Marine pollutant Not applicable

IMDG
UN number UN1760
Proper shipping name: Corrosive liquid, n.o.s. (Diluted Sulfuric Acid Solution)
UN classfication 8
Subsidiary hazard class
Packing group III
Marine pollutant (Sea) Not applicable
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

IATA
UN number UN1760
Proper shipping name: Corrosive liquid, n.o.s. (Diluted Sulfuric Acid Solution)
UN classfication 8
Subsidiary hazard class
Packing group III
Environmentally Hazardous Substance Not applicable

Section 15: REGULATORY INFORMATION

Japanese regulations
Fire Service Act Not applicable
Poisonous and Deleterious Substances Control Law Poisonous Substances 2nd. Grade
Industrial Safety and Health Act Harmful Substances Whose Names Are to be Indicated on the Label (Law Art.57)
Notifiable Substances (Law Art.57-2)
Group 3 Specified Chemical Substance, (Ordinance on Prevention of Hazards Due to Specified Chemical Substances Art.2 Para.1, Item 6)
Chemical Substances Hazardous to Skin, etc.(Regulations Article 594-2 Paragraph 1)
Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc Priority Assessment Chemical Substances (Law Article 2, Para.5)

Regulations for the carriage and storage of dangerous goods in ship	Corrosive Substances (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
Civil Aeronautics Law	Corrosive Substances (Ordinance Art.194, MITL Nortification for Air Transportation of Explosives etc., Attached Table 1)
Pollutant Release and Transfer Register Law (2023.4.1-)	Class 1
Class 1 - No.	349
Export Trade Control Order	Not applicable

Pollution Release and Transfer Registry (~2023.3.31)

Class	Chemical Name in Regulation	(Metal Name)	Control number	Content Rate
Class 1	Phenols		349	4.0

Industrial Safety and Health Law

Law Name	Chemical Name in Regulation	Weight %	
Notifiable Substances (Law Art.57-2)	Potassium hydroxide	4.8	Existing Law
Notifiable Substances (Law Art.57-2)	Tungsten and its soluble compounds	5.0	Existing Law
Notifiable Substances (Law Art.57-2)	Phenol	4.0	Existing Law
Notifiable Substances (Law Art.57-2)	Sulfuric acid	1.5	Existing Law

Poisonous and Deleterious Substances Control Law

SECTION	Chemical Name in Regulation
Poisonous Substances	Inorganic cyanides and their preparations

Section 16: OTHER INFORMATION

Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)
://www.chem-info.nite.go.jp/chem/chrip/chrip_search/systemTop
IATA dangerous Goods Regulations
RTECS:Registry of Toxic Effects of Chemical Substances
Japan Industrial Safety and Health Association GHS Model SDS
Dictionary of Synthetic Oraganic Chemistry , SSOCJ, Koudansha Scientific Co.Ltd.
Chemical Dictionary, Kyouritsu Publishing Co., Ltd.
etc

Disclaimer

This SDS is according to JIS Z 7253: 2019. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
GHS Classification is according to JIS Z 7252:2019. *JIS: Japanese Industrial Standards

End of Safety Data Sheet