



Material Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name : Alkaline Solution ADP-01

Manufacturer : LIFE SCIENCE Fuji Photo Film Co., LTD.
26-30, NISHIAZABU 2-CHOME, MINATO-KU, TOKYO 106-8620
03-3406-2201 FAX 03-3406-2158

MSDS No. : LS006301

2 COMPOSITION / INFORMATION ON INGREDIENTS

Substance or preparation(mixture) : Mixture

Chemical name : <Generally chemical substances greater than 1% of the total are listed.>

Component	CAS No.	%by Weight	ACGIH TLV
sodium lauryl sulfate	151-21-3	0.5 - 1.5	Not Established
sodium hydroxide [SSN]	1310-73-2	0.5 - 1.5	2 mg/m3(Ceiling)
water	7732-18-5	80 - 100	Not Established

Formula(CAS No.) : C₁₂H₂₆O₄S.Na(151-21-3), NaOH(1310-73-2), H₂O(7732-18-5)

Components contributing to the hazard : Sodium hydroxide

Note: The notations within the brackets [] following the chemical substance names are used to communicate the following indications:

"PRTR S1" : Chemical substances that are designated in the Law for Promoting the Management of Chemical Substances as Specific Class 1 Chemical Substances.

"PRTR 1" : Chemical substances that are designated, in the same Law, as Class 1 Chemical substances.

"PRTR 2" : Chemical substances that are designated, in the same Law, as Class 2 Chemical substances.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

It should also be noted that, in the case of substances that are subject to the Law for Promoting the Management of Chemical Substances, the substances are listed in correspondence to their numbers that appear in the Attached list.

3 HAZARDS IDENTIFICATION

Most important hazards : No hazard in normal industrial use.

Potential Health Effects

Eyes : May cause irritation to the eyes.

Skin : May cause irritation to the skin.

Inhalation : Not expected to cause adverse health effects.

Ingestion : Low hazard in normal industrial use.

Further Information : None.

Environmental effects : Not available

Physical and chemical hazards : No hazard in normal industrial use.

Specific hazards : None

Class name of hazardous chemicals for MSDS in Japan : Corrosive substances

4 FIRST-AID MEASURES

- Eye contact** : Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel if irritation persists.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician if irritation persists. Wash clothing before reuse. Destroy contaminated shoes.
- Ingestion** : No specific antidote.
- Inhalation** : Remove to fresh air. Consult a physician.
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5 FIRE-FIGHTING MEASURES

- Extinguishing Media** : Carbon dioxide, dry chemical and protein based foam.
- Unsuitable Extinguishing Media** : None under normal conditions.
- Specific method** : Keep containers cool by spraying with water.
Evacuate area and fight fire from a safe distance.
Water runoff can damage the environment. Dike and collect water used to fight fire.
- Protection of firefighters** : Wear adequate personal protective equipment.
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6 ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
- Environmental precautions** : Prevent from entering into soil, waterways and ground water.
- Methods for cleaning up** : Spills should be contained by, and covered with suitable absorbent material and removed for disposal.
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7 HANDLING AND STORAGE

- Handling**
- Technical measures : Practice care and caution to avoid skin and eye contact.
- Precaution(such as local ventilation) : Use only in well ventilated area.
- Safe handling advice : Wash hands and exposed skin before eating, drinking or smoking and after work.
- Storage**
- Suitable storage conditions : Keep containers tightly closed.
- Safe packaging materials : Use plastic container that have enough toughness.
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8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering measures** : Good general ventilation should be sufficient for most conditions.
- Personal protective equipment**
- Eye Protection : Safety goggles or face-shield.
- Skin Protection : Chemical resistant gloves.
- Respiratory Protection : Required on all inadequately ventilated work stations
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9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Clear liquid
Colour	:	Transparent colourless
Odour	:	Odourless
pH-value	:	ca13.2
Specific temperature/temperature ranges at which changes in physical state occur		
Boiling Point	:	Not Available
Melting Point	:	Not Available
Flammable Properties	:	Not combustible (aqueous solution)
Flash Point	:	Not Available [Not flammable]
Autoignition Temperature	:	Not Available [Not flammable]
Explosion Limits	Lower	: Not Available
	Upper	: Not Available
Density	:	Not Available
Solubility in water	:	Not Available [Completely soluble]

10 STABILITY AND REACTIVITY

Stability	:	Stable under normal handling and storage conditions.
Possible hazardous reaction	:	None.
Hazardous Decomposition Products	:	Sulfur oxides. CO, CO2
Further Information	:	None.

11 TOXICOLOGICAL INFORMATION

Product Information

Acute Toxicity

AcuteOral (The oral LD50):	:	>2000 mg/kg
Test Animal	:	Rat (Slc:Wister)
AcuteDermal (The dermal LD50):	:	Not Available
Test Animal	:	Not Available

Local Effects

Primary Skin Irritation Index	:	0.67
(Primary irritation index)		
Test Animal	:	Rabbit (Japanese white)
		May cause slight skin irritation.
Primary Eye Irritation Index	:	16.7
(Single ocular instillation)		
Test Animal	:	Rabbit (Japanese white)
		May cause eye irritation.

Sensitization	:	Not Available
Test Animal	:	Not Available

Chronic Toxicity or Long Term Toxicity : Not Available.

Further Information : None.

(including carcinogenicity)

12 ECOLOGICAL INFORMATION

Ecotoxicity	:	Not Available
Persistence/degradability etc.	:	Not Available

13 DISPOSAL CONSIDERATIONS

Disposal Regulations in Japan:

When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.


Laws and regulations to be followed while disposing of this product or waste :
 Japanese Waste Control and Public Cleaning Law: Falls under the category of a specifically controlled industrial waste (alkaline waste)
 Japanese Water Pollution Control Law : Living environment-related item
 Japanese Sewer Management Law : Restricts discharging sewer.

Recommendation: Dispose of in accordance with all applicable local or national regulations.


14 TRANSPORT INFORMATION

Refer below.

Marine Transportation

Class or Division	: Class 8, Corrosive	
UN-No.	: UN1824	
Proper Shipping Name	: Sodium hydroxide, solution	
Packing Group	: III	
Subsidiary Risk	: None	
Packing Instructions	: P001/LP01	
EmS(Emergency Schedule)	: F-A, S-B	
Further Information	: Do not allow any contact with light metals ----- danger of corrosion.	

Air Transportation

Class or Division	: Class 8, Corrosive	
UN-No.	: UN1824	
Proper Shipping Name	: Sodium hydroxide, solution	
Packing Group	: III (Packings must meet Packing Group II performance standards.)	
Subsidiary Risk	: None	
Label(s)	: Corrosive	
Passenger and Cargo Aircraft	: Packing Instruction 819 max. 5L	
Cargo Aircraft Only	: Packing Instruction 821 max. 60L	
Further Information	: Do not allow any contact with light metals ----- danger of corrosion.	

15 REGULATORY INFORMATION

Refer below.

Status in main Japanese Laws**Law Concerning the Examination and Regulation
of Manufacture for Chemical Substances**

Specified Chemical Substances : N

Designated Chemical Substances : N

Industrial Safety and Health Law

Dangerous Substances : N

Specified Chemical Substances : N

Organic Solvent Rule : N

Substances Subject to Notification : N

Poisonous and Deleterious Subst. Control Law

: N

Fire Service Law

: N

Law for Promoting the Management of Chemical Substances (PRTR Law)

: N

Law for Safety of Vessels

: Y

Air Law

: Y

Y:regulated by theLaw, N:not regulated by the Law

16 OTHER INFORMATION

This Information is provided without warranty. The Information is believed to be correct.
This information should be used to make an independent determination of the methodes to
safeguard workers and the environment.



Material Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name : Elution Buffer CDP-01

Manufacturer : LIFE SCIENCE Fuji Photo Film Co., LTD.
26-30, NISHIAZABU 2-CHOME, MINATO-KU, TOKYO 106-8620
03-3406-2201 FAX 03-3406-2158

MSDS No. : LS006701

2 COMPOSITION / INFORMATION ON INGREDIENTS

Substance or preparation(mixture) : Mixture

Chemical name : <Generally chemical substances greater than 1% of the total are listed.>

Component	CAS No.	%by Weight	ACGIH TLV
water	7732-18-5	80 - 100	Not Established

Formula(CAS No.) : H₂O (7732-18-5)

Components contributing to the hazard : None

Note: The notations within the brackets [] following the chemical substance names are used to communicate the following indications:

"PRTR S1" : Chemical substances that are designated in the Law for Promoting the Management of Chemical Substances as Specific Class 1 Chemical Substances.

"PRTR 1" : Chemical substances that are designated, in the same Law, as Class 1 Chemical substances.

"PRTR 2" : Chemical substances that are designated, in the same Law, as Class 2 Chemical substances.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

It should also be noted that, in the case of substances that are subject to the Law for Promoting the Management of Chemical Substances, the substances are listed in correspondence to their numbers that appear in the Attached list.

3 HAZARDS IDENTIFICATION

Most important hazards : No hazard in normal industrial use.

Potential Health Effects

Eyes : Non-irritating to the eyes.
Skin : Non-irritating to the skin.
Inhalation : Not expected to cause adverse health effects.
Ingestion : Low hazard.
Further Information : None.

Environmental effects : Not available

Physical and chemical hazards : No hazard in normal industrial use.

Specific hazards : None

Class name of hazardous chemicals for MSDS in Japan : Not applicable

4 FIRST-AID MEASURES

- Eye contact** : Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel if irritation persists.
- Skin contact** : Immediately wash skin with soap and plenty of water. It should be washed when clothes are polluted with this solution. Call a physician if irritation persists.
- Ingestion** : No specific antidote.
- Inhalation** : Remove to fresh air. Consult a physician.
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5 FIRE-FIGHTING MEASURES

- Extinguishing Media** : Carbon dioxide, dry chemical and protein based foam.
- Unsuitable Extinguishing Media** : None under normal conditions.
- Specific method** : Keep containers cool by spraying with water.
Evacuate area and fight fire from a safe distance.
Water runoff can damage the environment. Dike and collect water used to fight fire.
- Protection of firefighters** : Wear adequate personal protective equipment.
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6 ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
- Environmental precautions** : Prevent from entering into soil, waterways and ground water.
- Methods for cleaning up** : Spills should be contained by, and covered with suitable absorbent material and removed for disposal.
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7 HANDLING AND STORAGE

- Handling**
- Technical measures : Practice care and caution to avoid skin and eye contact.
- Precaution(such as local ventilation) : Use only in well ventilated area.
- Safe handling advice : Wash hands and exposed skin before eating, drinking or smoking and after work.
- Storage**
- Suitable storage conditions : Keep containers tightly closed.
- Safe packaging materials : Use plastic container that have enough toughness.
-

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering measures** : Good general ventilation should be sufficient for most conditions.
- Personal protective equipment**
- Eye Protection : Safety goggles or face-shield.
- Skin Protection : Chemical resistant gloves.
- Respiratory Protection : Required on all inadequately ventilated work stations.
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9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Aqueous solution
Colour	:	Transparent colourless
Odour	:	Odourless
pH-value	:	ca8.5
Specific temperature/temperature ranges at which changes in physical state occur		
Boiling Point	:	Not Available
Melting Point	:	Not Available
Flammable Properties	:	Not combustible (aqueous solution)
Flash Point	:	Not Available [Not flammable]
Autoignition Temperature	:	Not Available [Not flammable]
Explosion Limits	Lower	: Not Available
	Upper	: Not Available
Density	:	Not Available
Solubility in water	:	Not Available [Completely soluble]

10 STABILITY AND REACTIVITY

Stability	:	Stable under normal handling and storage conditions.
Possible hazardous reaction	:	None.
Hazardous Decomposition Products	:	NOX CO, CO2
Further Information	:	None.

11 TOXICOLOGICAL INFORMATION

Product Information**Acute Toxicity**

AcuteOral (The oral LD50):	:	>2000 mg/kg
Test Animal	:	Rat (Slc:Wister)
AcuteDermal (The dermal LD50):	:	Not Available
Test Animal	:	Not Available

Local Effects

Primary Skin Irritation Index	:	0
(Primary irritation index)		
Test Animal	:	Rabbit (Japanese white) Non-irritating to the skin.
Primary Eye Irritation Index	:	0
(Single ocular instillation)		
Test Animal	:	Rabbit (Japanese white) Non-irritating to the eyes.

Sensitization	:	Not Available
Test Animal	:	Not Available

Chronic Toxicity or Long Term Toxicity : Not Available.

Further Information : None.
(including carcinogenicity)

12 ECOLOGICAL INFORMATION

Ecotoxicity	:	Not Available
Persistence/degradability etc.	:	Not Available

13 DISPOSAL CONSIDERATIONS

Disposal Regulations in Japan:

When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.

Laws and regulations to be followed while disposing of this product or waste :
Japanese Waste Control and Public Cleaning Law: Falls under the category of an industrial waste (alkaline waste) Japanese Water Pollution Control Law: Living environment-related item Japanese Sewer Management Law : Restricts discharging sewer.

Recommendation:Dispose of in accordance with all applicable local or national regulations.

14 TRANSPORT INFORMATION

Not regulated

Marine Transportation

Class or Division	: Not classified as dangerous material.
UN-No.	: Not regulated
Proper Shipping Name	: Not regulated
Packing Group	: Not regulated
Subsidiary Risk	: Not regulated
Packing Instructions	: None
EmS(Emergency Schedule)	: None
Further Information	: Material not classified for transport at sea.

Air Transportation

Class or Division	: Not regulated
UN-No.	: Not regulated
Proper Shipping Name	: Not regulated
Packing Group	: Not regulated
Subsidiary Risk	: Not regulated
Label(s)	: Not regulated
Passenger and Cargo Aircraft	: Packing Instruction None max. None
Cargo Aircraft Only	: Packing Instruction None max. None
Further Information	: Material not classified for air transport.

15 REGULATORY INFORMATION

Not regulated

Status in main Japanese Laws**Law Concerning the Examination and Regulation
of Manufacture for Chemical Substances**

Specified Chemical Substances : N

Designated Chemical Substances : N

Industrial Safety and Health Law

Dangerous Substances : N

Specified Chemical Substances : N

Organic Solvent Rule : N

Substances Subject to Notification : N

Poisonous and Deleterious Subst. Control Law : N

Fire Service Law : N

Law for Promoting the Management of Chemical Substances (PRTR Law) : N

Law for Safety of Vessels : N

Air Law : N

Y:regulated by the Law, N:not regulated by the Law

16 OTHER INFORMATION

This Information is provided without warranty. The Information is believed to be correct.
This information should be used to make an independent determination of the methods to
safeguard workers and the environment.



Material Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name : RNase EDP-A

Manufacturer : LIFE SCIENCE Fuji Photo Film Co., LTD.
26-30, NISHIAZABU 2-CHOME, MINATO-KU, TOKYO 106-8620
03-3406-2201 FAX 03-3406-2158

MSDS No. : LS006801

2 COMPOSITION / INFORMATION ON INGREDIENTS

Substance or preparation(mixture) : Mixture

Chemical name : <Generally chemical substances greater than 1% of the total are listed.>

Component	CAS No.	%by Weight	ACGIH TLV
tris(hydroxymethyl)aminomethane hydrochloride salt	1185-53-1	1 - 5	Not Established
ribonuclease	9001-99-4	0.5 - 1.5	Not Established
water	7732-18-5	80 - 100	Not Established

Formula(CAS No.) : C₄H₁₂ClNO₃(1185-53-1), No data(9001-99-4), H₂O(7732-18-5)

Components contributing to the hazard : None

Note: The notations within the brackets [] following the chemical substance names are used to communicate the following indications:

"PRTR S1" : Chemical substances that are designated in the Law for Promoting the Management of Chemical Substances as Specific Class 1 Chemical Substances.

"PRTR 1" : Chemical substances that are designated, in the same Law, as Class 1 Chemical substances.

"PRTR 2" : Chemical substances that are designated, in the same Law, as Class 2 Chemical substances.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

It should also be noted that, in the case of substances that are subject to the Law for Promoting the Management of Chemical Substances, the substances are listed in correspondence to their numbers that appear in the Attached list.

3 HAZARDS IDENTIFICATION

Most important hazards : No hazard in normal industrial use.

Potential Health Effects

Eyes : Non-irritating to the eyes.

Skin : Non-irritating to the skin.

Inhalation : Not expected to cause adverse health effects.

Ingestion : Low hazard.

Further Information : None.

Environmental effects : Not available

Physical and chemical hazards : No hazard in normal industrial use.

Specific hazards : None

Class name of hazardous chemicals for MSDS in Japan : Not applicable

4 FIRST-AID MEASURES

- Eye contact** : Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel if irritation persists.
- Skin contact** : Immediately wash skin with soap and plenty of water. It should be washed when clothes are polluted with this solution. Call a physician if irritation persists.
- Ingestion** : No specific antidote.
- Inhalation** : Remove to fresh air. Consult a physician.
-

5 FIRE-FIGHTING MEASURES

- Extinguishing Media** : Carbon dioxide, dry chemical and protein based foam.
- Unsuitable Extinguishing Media** : None under normal conditions.
- Specific method** : Keep containers cool by spraying with water.
Evacuate area and fight fire from a safe distance.
Water runoff can damage the environment. Dike and collect water used to fight fire.
- Protection of firefighters** : Wear adequate personal protective equipment.
-

6 ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
- Environmental precautions** : Prevent from entering into soil, waterways and ground water.
- Methods for cleaning up** : Spills should be contained by, and covered with suitable absorbent material and removed for disposal.
-

7 HANDLING AND STORAGE

Handling

- Technical measures : Practice care and caution to avoid skin and eye contact.
- Precaution(such as local ventilation) : Use only in well ventilated area.
- Safe handling advice : Wash hands and exposed skin before eating, drinking or smoking and after work.

Storage

- Suitable storage conditions : Keep containers tightly closed.
- Safe packaging materials : Use plastic container that have enough toughness.
-

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering measures** : Good general ventilation should be sufficient for most conditions.
- Personal protective equipment**
- Eye Protection : Safety goggles or face-shield.
- Skin Protection : Chemical resistant gloves.
- Respiratory Protection : Required on all inadequately ventilated work stations.
-

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Aqueous solution
Colour	:	Transparent colourless
Odour	:	Odourless
pH-value	:	ca7.5
Specific temperature/temperature ranges at which changes in physical state occur		
Boiling Point	:	Not Available
Melting Point	:	Not Available
Flammable Properties	:	Not combustible (aqueous solution)
Flash Point	:	Not Available [Not flammable]
Autoignition Temperature	:	Not Available [Not flammable]
Explosion Limits	Lower	: Not Available
	Upper	: Not Available
Density	:	Not Available
Solubility in water	:	Not Available [Completely soluble]

10 STABILITY AND REACTIVITY

Stability	:	Stable under normal handling and storage conditions.
Possible hazardous reaction	:	None.
Hazardous Decomposition Products	:	NOX CO, CO2
Further Information	:	None.

11 TOXICOLOGICAL INFORMATION

Product Information

Acute Toxicity

AcuteOral (The oral LD50):	:	>2000 mg/kg
Test Animal	:	Rat (Slc:Wister)
AcuteDermal (The dermal LD50):	:	Not Available
Test Animal	:	Not Available

Local Effects

Primary Skin Irritation Index	:	0
(Primary irritation index)		
Test Animal	:	Rabbit (Japanese white) Non-irritating to the skin.
Primary Eye Irritation Index	:	0
(Single ocular instillation)		
Test Animal	:	Rabbit (Japanese white) Non-irritating to the eyes.

Sensitization	:	Not Available
Test Animal	:	Not Available

Chronic Toxicity or Long Term Toxicity : Not Available.

Further Information : None.
(including carcinogenicity)

12 ECOLOGICAL INFORMATION

Ecotoxicity	:	Not Available
Persistence/degradability etc.	:	Not Available

13 DISPOSAL CONSIDERATIONS

Disposal Regulations in Japan:

When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.

Laws and regulations to be followed while disposing of this product or waste :
 Japanese Waste Control and Public Cleaning Law: Falls under the category of an industrial waste (alkaline waste) Japanese Water Pollution Control Law: Living environment-related item Japanese Sewer Management Law : Restricts discharging sewer.

Recommendation: Dispose of in accordance with all applicable local or national regulations.

14 TRANSPORT INFORMATION

Not regulated

Marine Transportation

Class or Division	: Not classified as dangerous material.
UN-No.	: Not regulated
Proper Shipping Name	: Not regulated
Packing Group	: Not regulated
Subsidiary Risk	: Not regulated
Packing Instructions	: None
EmS(Emergency Schedule)	: None
Further Information	: Material not classified for transport at sea.

Air Transportation

Class or Division	: Not regulated
UN-No.	: Not regulated
Proper Shipping Name	: Not regulated
Packing Group	: Not regulated
Subsidiary Risk	: Not regulated
Label(s)	: Not regulated
Passenger and Cargo Aircraft	: Packing Instruction None max. None
Cargo Aircraft Only	: Packing Instruction None max. None
Further Information	: Material not classified for air transport.

15 REGULATORY INFORMATION

Not regulated

Status in main Japanese Laws**Law Concerning the Examination and Regulation
of Manufacture for Chemical Substances**

Specified Chemical Substances : N

Designated Chemical Substances : N

Industrial Safety and Health Law

Dangerous Substances : N

Specified Chemical Substances : N

Organic Solvent Rule : N

Substances Subject to Notification : N

Poisonous and Deleterious Subst. Control Law

: N

Fire Service Law

: N

Law for Promoting the Management of Chemical Substances (PRTR Law)

: N

Law for Safety of Vessels

: N

Air Law

: N

Y:regulated by the Law, N:not regulated by the Law

16 OTHER INFORMATION

This Information is provided without warranty. The Information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.



Material Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name : RNase EDP-B

Manufacturer : LIFE SCIENCE Fuji Photo Film Co., LTD.
26-30, NISHIAZABU 2-CHOME, MINATO-KU, TOKYO 106-8620
03-3406-2201 FAX 03-3406-2158

MSDS No. : LS006901

2 COMPOSITION / INFORMATION ON INGREDIENTS

Substance or preparation(mixture) : Mixture

Chemical name : <Generally chemical substances greater than 1% of the total are listed.>

Component	CAS No.	%by Weight	ACGIH TLV
ammonium sulphate	7783-20-2	30 - 50	Not Established
water	7732-18-5	50 - 70	Not Established

Formula(CAS No.) : $\text{H}_3\text{N} \cdot 1/2\text{H}_2\text{SO}_4$ (7783-20-2), H_2O (7732-18-5)

Components contributing to the hazard : None

Note: The notations within the brackets [] following the chemical substance names are used to communicate the following indications:

"PRTR S1" : Chemical substances that are designated in the Law for Promoting the Management of Chemical Substances as Specific Class 1 Chemical Substances.

"PRTR 1" : Chemical substances that are designated, in the same Law, as Class 1 Chemical substances.

"PRTR 2" : Chemical substances that are designated, in the same Law, as Class 2 Chemical substances.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

It should also be noted that, in the case of substances that are subject to the Law for Promoting the Management of Chemical Substances, the substances are listed in correspondence to their numbers that appear in the Attached list.

3 HAZARDS IDENTIFICATION

Most important hazards : No hazard in normal industrial use.

Potential Health Effects

Eyes : May cause irritation to the eyes.
Skin : Non-irritating to the skin.
Inhalation : Not expected to cause adverse health effects.
Ingestion : Low hazard.
Further Information : None.

Environmental effects : Not available

Physical and chemical hazards : No hazard in normal industrial use.

Specific hazards : None

Class name of hazardous chemicals for MSDS in Japan : Not applicable

4 FIRST-AID MEASURES

- Eye contact** : Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel if irritation persists.
- Skin contact** : Immediately wash skin with soap and plenty of water. It should be washed when clothes are polluted with this solution. Call a physician if irritation persists.
- Ingestion** : No specific antidote.
- Inhalation** : Remove to fresh air. Consult a physician.
-

5 FIRE-FIGHTING MEASURES

- Extinguishing Media** : Carbon dioxide, dry chemical and protein based foam.
- Unsuitable Extinguishing Media** : None under normal conditions.
- Specific method** : Keep containers cool by spraying with water.
Evacuate area and fight fire from a safe distance.
Water runoff can damage the environment. Dike and collect water used to fight fire.
- Protection of firefighters** : Wear adequate personal protective equipment.
-

6 ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
- Environmental precautions** : Prevent from entering into soil, waterways and ground water.
- Methods for cleaning up** : Spills should be contained by, and covered with suitable absorbent material and removed for disposal.
-

7 HANDLING AND STORAGE

Handling

- Technical measures : Practice care and caution to avoid skin and eye contact.
- Precaution(such as local ventilation) : Use only in well ventilated area.
- Safe handling advice : Wash hands and exposed skin before eating, drinking or smoking and after work.

Storage

- Suitable storage conditions : Keep containers tightly closed.
- Safe packaging materials : Use plastic container that have enough toughness.
-

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering measures** : Good general ventilation should be sufficient for most conditions.
- Personal protective equipment**
- Eye Protection : Safety goggles or face-shield.
- Skin Protection : Chemical resistant gloves.
- Respiratory Protection : Required on all inadequately ventilated work stations.
-

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Aqueous solution
Colour	:	Transparent colourless
Odour	:	Odourless
pH-value	:	ca6.0
Specific temperature/temperature ranges at which changes in physical state occur		
Boiling Point	:	Not Available
Melting Point	:	Not Available
Flammable Properties	:	Not combustible (aqueous solution)
Flash Point	:	Not Available [Not flammable]
Autoignition Temperature	:	Not Available [Not flammable]
Explosion Limits	Lower	: Not Available
	Upper	: Not Available
Density	:	Not Available
Solubility in water	:	Not Available [Completely soluble]

10 STABILITY AND REACTIVITY

Stability	:	Stable under normal handling and storage conditions.
Possible hazardous reaction	:	None.
Hazardous Decomposition Products	:	SO ₂ , NH ₃ , NOX CO, CO ₂
Further Information	:	None.

11 TOXICOLOGICAL INFORMATION

Product Information

Acute Toxicity

AcuteOral (The oral LD50):	:	>2000 mg/kg
Test Animal	:	Rat (Slc:Wister)
AcuteDermal (The dermal LD50):	:	Not Available
Test Animal	:	Not Available

Local Effects

Primary Skin Irritation Index	:	0
(Primary irritation index)		
Test Animal	:	Rabbit (Japanese white) Non-irritating to the skin.
Primary Eye Irritation Index	:	6
(Single ocular instillation)		
Test Animal	:	Rabbit (Japanese white) May cause slight eye irritation.

Sensitization	:	Not Available
Test Animal	:	Not Available

Chronic Toxicity or Long Term Toxicity : Not Available.

Further Information : None.

(including carcinogenicity)

12 ECOLOGICAL INFORMATION

Ecotoxicity	:	Not Available
Persistence/degradability etc.	:	Not Available

13 DISPOSAL CONSIDERATIONS

Disposal Regulations in Japan:

When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.

Laws and regulations to be followed while disposing of this product or waste :
Japanese Waste Control and Public Cleaning Law: Falls under the category of an industrial waste (acidic waste) Japanese Water Pollution Control Law:Living environment-related item Japanese Sewer Management Law : Restricts discharging wastewater

Recommendation:Dispose of in accordance with all applicable local or national regulations.

14 TRANSPORT INFORMATION

Not regulated

Marine Transportation

Class or Division	: Not classified as dangerous material.
UN-No.	: Not regulated
Proper Shipping Name	: Not regulated
Packing Group	: Not regulated
Subsidiary Risk	: Not regulated
Packing Instructions	: None
EmS(Emergency Schedule)	: None
Further Information	: Material not classified for transport at sea.

Air Transportation

Class or Division	: Not regulated
UN-No.	: Not regulated
Proper Shipping Name	: Not regulated
Packing Group	: Not regulated
Subsidiary Risk	: Not regulated
Label(s)	: Not regulated
Passenger and Cargo Aircraft	: Packing Instruction None max. None
Cargo Aircraft Only	: Packing Instruction None max. None
Further Information	: Material not classified for air transport.

15 REGULATORY INFORMATION

Not regulated

Status in main Japanese Laws**Law Concerning the Examination and Regulation
of Manufacture for Chemical Substances**

Specified Chemical Substances : N

Designated Chemical Substances : N

Industrial Safety and Health Law

Dangerous Substances : N

Specified Chemical Substances : N

Organic Solvent Rule : N

Substances Subject to Notification : N

Poisonous and Deleterious Subst. Control Law : N

Fire Service Law : N

Law for Promoting the Management of Chemical Substances (PRTR Law) : N

Law for Safety of Vessels : N

Air Law : N

Y:regulated by the Law, N:not regulated by the Law

16 OTHER INFORMATION

This Information is provided without warranty. The Information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.



Material Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name : Lysis Buffer LDP-01

Manufacturer : LIFE SCIENCE Fuji Photo Film Co., LTD.
26-30, NISHIAZABU 2-CHOME, MINATO-KU, TOKYO 106-8620
03-3406-2201 FAX 03-3406-2158

MSDS No. : LS006501

2 COMPOSITION / INFORMATION ON INGREDIENTS

Substance or preparation(mixture) : Mixture

Chemical name : <Generally chemical substances greater than 1% of the total are listed.>

Component	CAS No.	%by Weight	ACGIH TLV
polyoxyethylene sorbitan fatty acid ester	-----	15 - 30	Not Established
hydrochloride salts of aminoalcohol	-----	1 - 5	Not Established
water	7732-18-5	60 - 80	Not Established

Formula(CAS No.) : H₂O (7732-18-5)

Components contributing to the hazard : None

Note: The notations within the brackets [] following the chemical substance names are used to communicate the following indications:

"PRTR S1" : Chemical substances that are designated in the Law for Promoting the Management of Chemical Substances as Specific Class 1 Chemical Substances.

"PRTR 1" : Chemical substances that are designated, in the same Law, as Class 1 Chemical substances.

"PRTR 2" : Chemical substances that are designated, in the same Law, as Class 2 Chemical substances.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

It should also be noted that, in the case of substances that are subject to the Law for Promoting the Management of Chemical Substances, the substances are listed in correspondence to their numbers that appear in the Attached list.

3 HAZARDS IDENTIFICATION

Most important hazards : No hazard in normal industrial use.

Potential Health Effects

Eyes : Non-irritating to the eyes.
Skin : Non-irritating to the skin.
Inhalation : Not expected to cause adverse health effects.
Ingestion : Low hazard.
Further Information : None.

Environmental effects : Not available

Physical and chemical hazards : No hazard in normal industrial use.

Specific hazards : None

Class name of hazardous chemicals for MSDS in Japan : Not applicable

4 FIRST-AID MEASURES

- Eye contact** : Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel if irritation persists.
- Skin contact** : Immediately wash skin with soap and plenty of water. It should be washed when clothes are polluted with this solution. Call a physician if irritation persists.
- Ingestion** : No specific antidote.
- Inhalation** : Remove to fresh air. Consult a physician.
-

5 FIRE-FIGHTING MEASURES

- Extinguishing Media** : Carbon dioxide, dry chemical and protein based foam.
- Unsuitable Extinguishing Media** : None under normal conditions.
- Specific method** : Keep containers cool by spraying with water.
Evacuate area and fight fire from a safe distance.
Water runoff can damage the environment. Dike and collect water used to fight fire.
- Protection of firefighters** : Wear adequate personal protective equipment.
-

6 ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
- Environmental precautions** : Prevent from entering into soil, waterways and ground water.
- Methods for cleaning up** : Spills should be contained by, and covered with suitable absorbent material and removed for disposal.
-

7 HANDLING AND STORAGE

Handling

- Technical measures : Practice care and caution to avoid skin and eye contact.
- Precaution(such as local ventilation) : Use only in well ventilated area.
- Safe handling advice : Wash hands and exposed skin before eating, drinking or smoking and after work.

Storage

- Suitable storage conditions : Keep containers tightly closed.
- Safe packaging materials : Use plastic container that have enough toughness.
-

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering measures** : Good general ventilation should be sufficient for most conditions.
- Personal protective equipment**
- Eye Protection : Safety goggles or face-shield.
- Skin Protection : Chemical resistant gloves.
- Respiratory Protection : Required on all inadequately ventilated work stations.
-

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Clear liquid
Colour	:	Yellow
Odour	:	Practically odourless
pH-value	:	ca6.0
Specific temperature/temperature ranges at which changes in physical state occur		
Boiling Point	:	Not Available
Melting Point	:	Not Available
Flammable Properties	:	Not combustible (aqueous solution)
Flash Point	:	Not Available [Not flammable]
Autoignition Temperature	:	Not Available [Not flammable]
Explosion Limits	Lower	: Not Available
	Upper	: Not Available
Density	:	Not Available
Solubility in water	:	Not Available [Completely soluble]

10 STABILITY AND REACTIVITY

Stability	:	Stable under normal handling and storage conditions.
Possible hazardous reaction	:	None.
Hazardous Decomposition Products	:	NOX CO, CO2
Further Information	:	None.

11 TOXICOLOGICAL INFORMATION

Product Information

Acute Toxicity

AcuteOral (The oral LD50):	:	>2000 mg/kg
Test Animal	:	Rat (Slc:Wister)
AcuteDermal (The dermal LD50):	:	Not Available
Test Animal	:	Not Available

Local Effects

Primary Skin Irritation Index	:	0
(Primary irritation index)		
Test Animal	:	Rabbit (Japanese white) Non-irritating to the skin.
Primary Eye Irritation Index	:	0
(Single ocular instillation)		
Test Animal	:	Rabbit (Japanese white) Non-irritating to the eyes.

Sensitization	:	Not Available
Test Animal	:	Not Available

Chronic Toxicity or Long Term Toxicity : Not Available.

Further Information : None.
(including carcinogenicity)

12 ECOLOGICAL INFORMATION

Ecotoxicity	:	Not Available
Persistence/degradability etc.	:	Not Available

13 DISPOSAL CONSIDERATIONS

Disposal Regulations in Japan:

When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.

Laws and regulations to be followed while disposing of this product or waste :
 Japanese Waste Control and Public Cleaning Law: Falls under the category of an industrial waste (acidic waste) Japanese Water Pollution Control Law:Living environment-related item Japanese Sewer Management Law : Restricts discharging wastewater

Recommendation:Dispose of in accordance with all applicable local or national regulations.

14 TRANSPORT INFORMATION

Not regulated

Marine Transportation

Class or Division	: Not classified as dangerous material.
UN-No.	: Not regulated
Proper Shipping Name	: Not regulated
Packing Group	: Not regulated
Subsidiary Risk	: Not regulated
Packing Instructions	: None
EmS(Emergency Schedule)	: None
Further Information	: Material not classified for transport at sea.

Air Transportation

Class or Division	: Not regulated
UN-No.	: Not regulated
Proper Shipping Name	: Not regulated
Packing Group	: Not regulated
Subsidiary Risk	: Not regulated
Label(s)	: Not regulated
Passenger and Cargo Aircraft	: Packing Instruction None max. None
Cargo Aircraft Only	: Packing Instruction None max. None
Further Information	: Material not classified for air transport.

15 REGULATORY INFORMATION

Not regulated

Status in main Japanese Laws**Law Concerning the Examination and Regulation
of Manufacture for Chemical Substances**

Specified Chemical Substances : N

Designated Chemical Substances : N

Industrial Safety and Health Law

Dangerous Substances : N

Specified Chemical Substances : N

Organic Solvent Rule : N

Substances Subject to Notification : N

Poisonous and Deleterious Subst. Control Law

: N

Fire Service Law

: N

Law for Promoting the Management of Chemical Substances (PRTR Law)

: N

Law for Safety of Vessels

: N

Air Law

: N

Y:regulated by the Law, N:not regulated by the Law

16 OTHER INFORMATION

This Information is provided without warranty. The Information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.



Material Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name : Neutralization Buffer NDP-01

Manufacturer : LIFE SCIENCE Fuji Photo Film Co., LTD.
26-30, NISHIAZABU 2-CHOME, MINATO-KU, TOKYO 106-8620
03-3406-2201 FAX 03-3406-2158

MSDS No. : LS006401

2 COMPOSITION / INFORMATION ON INGREDIENTS

Substance or preparation(mixture) : Mixture

Chemical name : <Generally chemical substances greater than 1% of the total are listed.>

Component	CAS No.	%by Weight	ACGIH TLV
potassium acetate	127-08-2	20 - 40	Not Established
acetic acid [SSN]	64-19-7	10 - 20	15 ppm STE L,10 ppm TWA
water	7732-18-5	50 - 70	Not Established

Formula(CAS No.) : C₂H₄O₂.K(127-08-2), C₂H₄O₂(64-19-7), H₂O(7732-18-5)

Components contributing to the hazard : Acetic acid

Note: The notations within the brackets [] following the chemical substance names are used to communicate the following indications:

"PRTR S1" : Chemical substances that are designated in the Law for Promoting the Management of Chemical Substances as Specific Class 1 Chemical Substances.

"PRTR 1" : Chemical substances that are designated, in the same Law, as Class 1 Chemical substances.

"PRTR 2" : Chemical substances that are designated, in the same Law, as Class 2 Chemical substances.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

It should also be noted that, in the case of substances that are subject to the Law for Promoting the Management of Chemical Substances, the substances are listed in correspondence to their numbers that appear in the Attached list.

3 HAZARDS IDENTIFICATION

Most important hazards : No hazard in normal industrial use.

Potential Health Effects

Eyes : May cause irritation to the eyes.

Skin : Non-irritating to the skin.

Inhalation : Not expected to cause adverse health effects.

Ingestion : Low hazard.

Further Information : None.

Environmental effects : Not available

Physical and chemical hazards : No hazard in normal industrial use.

Specific hazards : None

Class name of hazardous chemicals for MSDS in Japan : Corrosive substances

4 FIRST-AID MEASURES

- Eye contact** : Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel if irritation persists.
- Skin contact** : Immediately wash skin with soap and plenty of water. It should be washed when clothes are polluted with this solution. Call a physician if irritation persists.
- Ingestion** : No specific antidote.
- Inhalation** : Remove to fresh air. Consult a physician.
-

5 FIRE-FIGHTING MEASURES

- Extinguishing Media** : Carbon dioxide, dry chemical and protein based foam.
- Unsuitable Extinguishing Media** : None under normal conditions.
- Specific method** : Keep containers cool by spraying with water.
Evacuate area and fight fire from a safe distance.
Water runoff can damage the environment. Dike and collect water used to fight fire.
- Protection of firefighters** : Wear adequate personal protective equipment.
-

6 ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
- Environmental precautions** : Prevent from entering into soil, waterways and ground water.
- Methods for cleaning up** : Spills should be contained by, and covered with suitable absorbent material and removed for disposal.
-

7 HANDLING AND STORAGE

- Handling**
- Technical measures : Practice care and caution to avoid skin and eye contact.
- Precaution(such as local ventilation) : Use only in well ventilated area.
- Safe handling advice : Wash hands and exposed skin before eating, drinking or smoking and after work.
- Storage**
- Suitable storage conditions : Keep containers tightly closed.
- Safe packaging materials : Use plastic container that have enough toughness.
-

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering measures** : Good general ventilation should be sufficient for most conditions.
- Personal protective equipment**
- Eye Protection : Safety glasses.
- Skin Protection : Chemical resistant gloves.
- Respiratory Protection : Required on all inadequately ventilated work stations.
-

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Clear liquid
Colour	: Transparent colourless
Odour	: Acetic
pH-value	: ca5.5
Specific temperature/temperature ranges at which changes in physical state occur	
Boiling Point	: Not Available
Melting Point	: Not Available
Flammable Properties	: Not combustible (aqueous solution)
Flash Point	: Not Available [Not flammable]
Autoignition Temperature	: Not Available [Not flammable]
Explosion Limits	Lower : Not Available
	Upper : Not Available
Density	: Not Available
Solubility in water	: Not Available [Completely soluble]

10 STABILITY AND REACTIVITY

Stability	: Stable under normal handling and storage conditions.
Possible hazardous reaction	: None.
Hazardous Decomposition Products	: CO, CO2
Further Information	: None.

11 TOXICOLOGICAL INFORMATION

Product Information

Acute Toxicity

AcuteOral (The oral LD50):	: >2000 mg/kg
Test Animal	: Rat (Slc:Wister)
AcuteDermal (The dermal LD50):	: Not Available
Test Animal	: Not Available

Local Effects

Primary Skin Irritation Index	: 0
(Primary irritation index)	
Test Animal	: Rabbit (Japanese white)
	Non-irritating to the skin.

Primary Eye Irritation Index	: 28
(Single ocular instillation)	
Test Animal	: Rabbit (Japanese white)
	May cause eye irritation.

Sensitization	: Not Available
Test Animal	: Not Available

Chronic Toxicity or Long Term Toxicity : Not Available.

Further Information	: None.
(including carcinogenicity)	

12 ECOLOGICAL INFORMATION

Ecotoxicity	: Not Available
Persistence/degradability etc.	: Not Available

13 DISPOSAL CONSIDERATIONS

Disposal Regulations in Japan:

When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.

Laws and regulations to be followed while disposing of this product or waste :
 Japanese Waste Control and Public Cleaning Law: Falls under the category of an industrial waste (acidic waste)
 Japanese Water Pollution Control Law: Living environment-related item
 Japanese Sewer Management Law : Restricts discharging wastewater

Recommendation: Dispose of in accordance with all applicable local or national regulations.

14 TRANSPORT INFORMATION

Refer below.

Marine Transportation

Class or Division	: Class 8, Corrosive
UN-No.	: UN2790
Proper Shipping Name	: Acetic acid solution (more than 10% but less than 50% acid, by weight)
Packing Group	: III
Subsidiary Risk	: None
Packing Instructions	: P001/LP01
EmS(Emergency Schedule)	: F-A, S-B
Further Information	: None



Air Transportation

Class or Division	: Class 8, Corrosive
UN-No.	: UN2790
Proper Shipping Name	: Acetic acid solution (more than 10% but less than 50% acid, by weight)
Packing Group	: III
Subsidiary Risk	: None
Label(s)	: Corrosive
Passenger and Cargo Aircraft	: Packing Instruction 818 max. 5L
Cargo Aircraft Only	: Packing Instruction 820 max. 60L
Further Information	: None



15 REGULATORY INFORMATION

Refer below.

Status in main Japanese Laws**Law Concerning the Examination and Regulation
of Manufacture for Chemical Substances**

Specified Chemical Substances : N

Designated Chemical Substances : N

Industrial Safety and Health Law

Dangerous Substances : N

Specified Chemical Substances : N

Organic Solvent Rule : N

Substances Subject to Notification : Y

Poisonous and Deleterious Subst. Control Law

: N

Fire Service Law

: N

Law for Promoting the Management of Chemical Substances (PRTR Law)

: N

Law for Safety of Vessels

: Y

Air Law

: Y

Y:regulated by theLaw, N:not regulated by the Law

16 OTHER INFORMATION

This Information is provided without warranty. The Information is believed to be correct.
This information should be used to make an independent determination of the methodes to
safeguard workers and the environment.



Material Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name : Resuspension Buffer RDP-01
Manufacturer : LIFE SCIENCE Fuji Photo Film Co., LTD.
 26-30, NISHIAZABU 2-CHOME, MINATO-KU, TOKYO 106-8620
 03-3406-2201 FAX 03-3406-2158
MSDS No. : LS006201

2 COMPOSITION / INFORMATION ON INGREDIENTS

Substance or preparation(mixture) : Mixture

Chemical name : <Generally chemical substances greater than 1% of the total are listed.>

Component	CAS No.	%by Weight	ACGIH TLV
tris(hydroxymethyl)aminomethane hydrochloride salt	1185-53-1	0.5 - 1.5	Not Established
water	7732-18-5	80 - 100	Not Established

Formula(CAS No.) : C₄H₁₂ClN₃(1185-53-1), H₂O(7732-18-5)

Components contributing to the hazard : None

Note: The notations within the brackets [] following the chemical substance names are used to communicate the following indications:

"PRTR S1" : Chemical substances that are designated in the Law for Promoting the Management of Chemical Substances as Specific Class 1 Chemical Substances.

"PRTR 1" : Chemical substances that are designated, in the same Law, as Class 1 Chemical substances.

"PRTR 2" : Chemical substances that are designated, in the same Law, as Class 2 Chemical substances.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

It should also be noted that, in the case of substances that are subject to the Law for Promoting the Management of Chemical Substances, the substances are listed in correspondence to their numbers that appear in the Attached list.

3 HAZARDS IDENTIFICATION

Most important hazards : No hazard in normal industrial use.

Potential Health Effects

Eyes : Non-irritating to the eyes.

Skin : Non-irritating to the skin.

Inhalation : Not expected to cause adverse health effects.

Ingestion : Low hazard.

Further Information : None.

Environmental effects : Not available

Physical and chemical hazards : No hazard in normal industrial use.

Specific hazards : None

Class name of hazardous chemicals for MSDS in Japan : Not applicable

4 FIRST-AID MEASURES

- Eye contact** : Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel if irritation persists.
- Skin contact** : Immediately wash skin with soap and plenty of water. It should be washed when clothes are polluted with this solution. Call a physician if irritation persists.
- Ingestion** : No specific antidote.
- Inhalation** : Remove to fresh air. Consult a physician.
-

5 FIRE-FIGHTING MEASURES

- Extinguishing Media** : Carbon dioxide, dry chemical and protein based foam.
- Unsuitable Extinguishing Media** : None under normal conditions.
- Specific method** : Keep containers cool by spraying with water.
Evacuate area and fight fire from a safe distance.
Water runoff can damage the environment. Dike and collect water used to fight fire.
- Protection of firefighters** : Wear adequate personal protective equipment.
-

6 ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
- Environmental precautions** : Prevent from entering into soil, waterways and ground water.
- Methods for cleaning up** : Spills should be contained by, and covered with suitable absorbent material and removed for disposal.
-

7 HANDLING AND STORAGE

- Handling**
- Technical measures : Practice care and caution to avoid skin and eye contact.
- Precaution(such as local ventilation) : Use only in well ventilated area.
- Safe handling advice : Wash hands and exposed skin before eating, drinking or smoking and after work.
- Storage**
- Suitable storage conditions : Keep containers tightly closed.
- Safe packaging materials : Use plastic container that have enough toughness.
-

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering measures** : Good general ventilation should be sufficient for most conditions.
- Personal protective equipment**
- Eye Protection : Safety goggles or face-shield.
- Skin Protection : Chemical resistant gloves.
- Respiratory Protection : Required on all inadequately ventilated work stations.
-

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Clear liquid
Colour	:	Transparent colourless
Odour	:	Odourless
pH-value	:	ca8.2
Specific temperature/temperature ranges at which changes in physical state occur		
Boiling Point	:	Not Available
Melting Point	:	Not Available
Flammable Properties	:	Not combustible (aqueous solution)
Flash Point	:	Not Available [Not flammable]
Autoignition Temperature	:	Not Available [Not flammable]
Explosion Limits	Lower	: Not Available
	Upper	: Not Available
Density	:	Not Available
Solubility in water	:	Not Available [Completely soluble]

10 STABILITY AND REACTIVITY

Stability	:	Stable under normal handling and storage conditions.
Possible hazardous reaction	:	None.
Hazardous Decomposition Products	:	NOX CO, CO2
Further Information	:	None.

11 TOXICOLOGICAL INFORMATION

Product Information

Acute Toxicity

AcuteOral (The oral LD50):	:	>2000 mg/kg
Test Animal	:	Rat (Slc:Wister)
AcuteDermal (The dermal LD50):	:	Not Available
Test Animal	:	Not Available

Local Effects

Primary Skin Irritation Index	:	0
(Primary irritation index)		
Test Animal	:	Rabbit (Japanese white) Non-irritating to the skin.
Primary Eye Irritation Index	:	0
(Single ocular instillation)		
Test Animal	:	Rabbit (Japanese white) Non-irritating to the eyes.

Sensitization	:	Not Available
Test Animal	:	Not Available

Chronic Toxicity or Long Term Toxicity : Not Available.

Further Information : None.
(including carcinogenicity)

12 ECOLOGICAL INFORMATION

Ecotoxicity	:	Not Available
Persistence/degradability etc.	:	Not Available

13 DISPOSAL CONSIDERATIONS

Disposal Regulations in Japan:

When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.

Laws and regulations to be followed while disposing of this product or waste :
 Japanese Waste Control and Public Cleaning Law: Falls under the category of an industrial waste (alkaline waste) Japanese Water Pollution Control Law: Living environment-related item Japanese Sewer Management Law : Restricts discharging sewer.

Recommendation: Dispose of in accordance with all applicable local or national regulations.

14 TRANSPORT INFORMATION

Not regulated

Marine Transportation

Class or Division	: Not classified as dangerous material.
UN-No.	: Not regulated
Proper Shipping Name	: Not regulated
Packing Group	: Not regulated
Subsidiary Risk	: Not regulated
Packing Instructions	: None
EmS(Emergency Schedule)	: None
Further Information	: Material not classified for transport at sea.

Air Transportation

Class or Division	: Not regulated
UN-No.	: Not regulated
Proper Shipping Name	: Not regulated
Packing Group	: Not regulated
Subsidiary Risk	: Not regulated
Label(s)	: Not regulated
Passenger and Cargo Aircraft	: Packing Instruction None max. None
Cargo Aircraft Only	: Packing Instruction None max. None
Further Information	: Material not classified for air transport.

15 REGULATORY INFORMATION

Not regulated

Status in main Japanese Laws**Law Concerning the Examination and Regulation
of Manufacture for Chemical Substances**

Specified Chemical Substances : N

Designated Chemical Substances : N

Industrial Safety and Health Law

Dangerous Substances : N

Specified Chemical Substances : N

Organic Solvent Rule : N

Substances Subject to Notification : N

Poisonous and Deleterious Subst. Control Law

: N

Fire Service Law

: N

Law for Promoting the Management of Chemical Substances (PRTR Law)

: N

Law for Safety of Vessels

: N

Air Law

: N

Y:regulated by the Law, N:not regulated by the Law

16 OTHER INFORMATION

This Information is provided without warranty. The Information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.



Material Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name : Wash Buffer WDP-01

Manufacturer : LIFE SCIENCE Fuji Photo Film Co., LTD.
26-30, NISHIAZABU 2-CHOME, MINATO-KU, TOKYO 106-8620
03-3406-2201 FAX 03-3406-2158

MSDS No. : LS002301

2 COMPOSITION / INFORMATION ON INGREDIENTS

Substance or preparation(mixture) : Mixture

Chemical name : <Generally chemical substances greater than 1% of the total are listed.>

Component	CAS No.	%by Weight	ACGIH TLV
tris(hydroxymethyl)aminomethane hydrochloride salt	1185-53-1	0.5 - 1.5	Not Established
water	7732-18-5	80 - 100	Not Established

Formula(CAS No.) : C₄H₁₂ClNO₃(1185-53-1), H₂O(7732-18-5)

Components contributing to the hazard : None

Note: The notations within the brackets [] following the chemical substance names are used to communicate the following indications:

"PRTR S1" : Chemical substances that are designated in the Law for Promoting the Management of Chemical Substances as Specific Class 1 Chemical Substances.

"PRTR 1" : Chemical substances that are designated, in the same Law, as Class 1 Chemical substances.

"PRTR 2" : Chemical substances that are designated, in the same Law, as Class 2 Chemical substances.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

It should also be noted that, in the case of substances that are subject to the Law for Promoting the Management of Chemical Substances, the substances are listed in correspondence to their numbers that appear in the Attached list.

3 HAZARDS IDENTIFICATION

Most important hazards : No hazard in normal industrial use.

Potential Health Effects

Eyes : Non-irritating to the eyes.
Skin : Non-irritating to the skin.
Inhalation : Not expected to cause adverse health effects.
Ingestion : Low hazard.
Further Information : None.

Environmental effects : Not available

Physical and chemical hazards : No hazard in normal industrial use.

Specific hazards : None

Class name of hazardous chemicals for MSDS in Japan : Not applicable

4 FIRST-AID MEASURES

- Eye contact** : Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel if irritation persists.
- Skin contact** : Immediately wash skin with soap and plenty of water. Call a physician if irritation persists.
- Ingestion** : No specific antidote.
- Inhalation** : Remove to fresh air. Consult a physician.
-

5 FIRE-FIGHTING MEASURES

- Extinguishing Media** : Carbon dioxide, dry chemical and protein based foam.
- Unsuitable Extinguishing Media** : None under normal conditions.
- Specific method** : Keep containers cool by spraying with water.
Evacuate area and fight fire from a safe distance.
Water runoff can damage the environment. Dike and collect water used to fight fire.
- Protection of firefighters** : Wear adequate personal protective equipment.
-

6 ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
- Environmental precautions** : Prevent from entering into soil, waterways and ground water.
- Methods for cleaning up** : Spills should be contained by, and covered with suitable absorbent material and removed for disposal.
-

7 HANDLING AND STORAGE

Handling

- Technical measures : Practice care and caution to avoid skin and eye contact.
- Precaution(such as local ventilation) : Use only in well ventilated area.
- Safe handling advice : Wash hands and exposed skin before eating, drinking or smoking and after work.

Storage

- Suitable storage conditions : Keep containers tightly closed.
- Safe packaging materials : Use plastic container that have enough toughness.
-

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering measures** : Good general ventilation should be sufficient for most conditions.
- Personal protective equipment**
- Eye Protection : Safety goggles or face-shield.
- Skin Protection : Chemical resistant gloves.
- Respiratory Protection : Required on all inadequately ventilated work stations
- .
-

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Aqueous solution	
Colour	:	Transparent colourless	
Odour	:	Odourless	
pH-value	:	ca7.8	
Specific temperature/temperature ranges at which changes in physical state occur			
Boiling Point	:	Not Available	
Melting Point	:	Not Available	
Flammable Properties	:	Not combustible (aqueous solution)	
Flash Point	:	Not Available [Not flammable]	
Autoignition Temperature	:	Not Available [Not flammable]	
Explosion Limits	Lower	:	Not Available
	Upper	:	Not Available
Density	:	Not Available	
Solubility in water	:	Not Available [Completely soluble]	

10 STABILITY AND REACTIVITY

Stability	:	Stable under normal handling and storage conditions.
Possible hazardous reaction	:	None.
Hazardous Decomposition Products	:	NOX CO, CO2
Further Information	:	None.

11 TOXICOLOGICAL INFORMATION

Product Information**Acute Toxicity**

AcuteOral (The oral LD50):	:	>2000 mg/kg
Test Animal	:	Rat (Slc:Wister)
AcuteDermal (The dermal LD50):	:	Not Available
Test Animal	:	Not Available

Local Effects

Primary Skin Irritation Index	:	0
(Primary irritation index)		
Test Animal	:	Rabbit (Japanese white) Non-irritating to the skin.
Primary Eye Irritation Index	:	0
(Single ocular instillation)		
Test Animal	:	Rabbit (Japanese white) Non-irritating to the eyes.

Sensitization	:	Not Available
Test Animal	:	Not Available

Chronic Toxicity or Long Term Toxicity : Not Available.

Further Information : None.
(including carcinogenicity)

12 ECOLOGICAL INFORMATION

Ecotoxicity	:	Not Available
Persistence/degradability etc.	:	Not Available

13 DISPOSAL CONSIDERATIONS

Disposal Regulations in Japan:

When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.

Laws and regulations to be followed while disposing of this product or waste :
 Japanese Waste Control and Public Cleaning Law: Falls under the category of an industrial waste (alkaline waste) Japanese Water Pollution Control Law: Living environment-related item Japanese Sewer Management Law : Restricts discharging sewer.

Recommendation: Dispose of in accordance with all applicable local or national regulations.

14 TRANSPORT INFORMATION

Not regulated

Marine Transportation

Class or Division	: Not classified as dangerous material.
UN-No.	: Not regulated
Proper Shipping Name	: Not regulated
Packing Group	: Not regulated
Subsidiary Risk	: Not regulated
Packing Instructions	: None
EmS(Emergency Schedule)	: None
Further Information	: Material not classified for transport at sea.

Air Transportation

Class or Division	: Not regulated
UN-No.	: Not regulated
Proper Shipping Name	: Not regulated
Packing Group	: Not regulated
Subsidiary Risk	: Not regulated
Label(s)	: Not regulated
Passenger and Cargo Aircraft	: Packing Instruction None max. None
Cargo Aircraft Only	: Packing Instruction None max. None
Further Information	: Material not classified for air transport.

15 REGULATORY INFORMATION

Not regulated

Status in main Japanese Laws**Law Concerning the Examination and Regulation
of Manufacture for Chemical Substances**

Specified Chemical Substances : N

Designated Chemical Substances : N

Industrial Safety and Health Law

Dangerous Substances : N

Specified Chemical Substances : N

Organic Solvent Rule : N

Substances Subject to Notification : N

Poisonous and Deleterious Subst. Control Law : N

Fire Service Law : N

Law for Promoting the Management of Chemical Substances (PRTR Law) : N

Law for Safety of Vessels : N

Air Law : N

Y:regulated by the Law, N:not regulated by the Law

16 OTHER INFORMATION

This Information is provided without warranty. The Information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.



Material Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name : Wash Buffer WDP-02

Manufacturer : LIFE SCIENCE Fuji Photo Film Co., LTD.
26-30, NISHIAZABU 2-CHOME, MINATO-KU, TOKYO 106-8620
03-3406-2201 FAX 03-3406-2158

MSDS No. : LS006601

2 COMPOSITION / INFORMATION ON INGREDIENTS

Substance or preparation(mixture) : Mixture

Chemical name : <Generally chemical substances greater than 1% of the total are listed.>

Component	CAS No.	%by Weight	ACGIH TLV
tris(hydroxymethyl)aminomethane hydrochloride salt	1185-53-1	0.5 - 1.5	Not Established
water	7732-18-5	80 - 100	Not Established

Formula(CAS No.) : C₄H₁₂ClN₃(1185-53-1), H₂O(7732-18-5)

Components contributing to the hazard : None

Note: The notations within the brackets [] following the chemical substance names are used to communicate the following indications:

"PRTR S1" : Chemical substances that are designated in the Law for Promoting the Management of Chemical Substances as Specific Class 1 Chemical Substances.

"PRTR 1" : Chemical substances that are designated, in the same Law, as Class 1 Chemical substances.

"PRTR 2" : Chemical substances that are designated, in the same Law, as Class 2 Chemical substances.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

It should also be noted that, in the case of substances that are subject to the Law for Promoting the Management of Chemical Substances, the substances are listed in correspondence to their numbers that appear in the Attached list.

3 HAZARDS IDENTIFICATION

Most important hazards : No hazard in normal industrial use.

Potential Health Effects

Eyes : Non-irritating to the eyes.
Skin : Non-irritating to the skin.
Inhalation : Not expected to cause adverse health effects.
Ingestion : Low hazard.
Further Information : None.

Environmental effects : Not available

Physical and chemical hazards : No hazard in normal industrial use.

Specific hazards : None

Class name of hazardous chemicals for MSDS in Japan : Not applicable

4 FIRST-AID MEASURES

- Eye contact** : Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel if irritation persists.
- Skin contact** : Immediately wash skin with soap and plenty of water. It should be washed when clothes are polluted with this solution. Call a physician if irritation persists.
- Ingestion** : No specific antidote.
- Inhalation** : Remove to fresh air. Consult a physician.
-

5 FIRE-FIGHTING MEASURES

- Extinguishing Media** : Carbon dioxide, dry chemical and protein based foam.
- Unsuitable Extinguishing Media** : None under normal conditions.
- Specific method** : Keep containers cool by spraying with water.
Evacuate area and fight fire from a safe distance.
Water runoff can damage the environment. Dike and collect water used to fight fire.
- Protection of firefighters** : Wear adequate personal protective equipment.
-

6 ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
- Environmental precautions** : Prevent from entering into soil, waterways and ground water.
- Methods for cleaning up** : Spills should be contained by, and covered with suitable absorbent material and removed for disposal.
-

7 HANDLING AND STORAGE

Handling

- Technical measures : Practice care and caution to avoid skin and eye contact.
- Precaution(such as local ventilation) : Use only in well ventilated area.
- Safe handling advice : Wash hands and exposed skin before eating, drinking or smoking and after work.

Storage

- Suitable storage conditions : Keep containers tightly closed.
- Safe packaging materials : Use plastic container that have enough toughness.
-

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering measures** : Good general ventilation should be sufficient for most conditions.
- Personal protective equipment**
- Eye Protection : Safety goggles or face-shield.
- Skin Protection : Chemical resistant gloves.
- Respiratory Protection : Required on all inadequately ventilated work stations.
-

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	Aqueous solution
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Odour	:	Odourless
pH-value	:	ca7.8
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Autoignition Temperature	:	Not Available [Not flammable]
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	Upper	: Not Available
Density	:	Not Available
Solubility in water	:	Not Available [Completely soluble]

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Possible hazardous reaction	:	None.
Hazardous Decomposition Products	:	NOX CO, CO2
Further Information	:	None.

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Product Information**Acute Toxicity**

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(Single ocular instillation)		
Test Animal	:	Rabbit (Japanese white) Non-irritating to the eyes.

Sensitization	:	Not Available
Test Animal	:	Not Available

Chronic Toxicity or Long Term Toxicity : Not Available.**Further Information** : None.

(including carcinogenicity)

12 ECOLOGICAL INFORMATION

Ecotoxicity	:	Not Available
Persistence/degradability etc.	:	Not Available

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EmS(Emergency Schedule)	: None
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Packing Group	: Not regulated
Subsidiary Risk	: Not regulated
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Cargo Aircraft Only	: Packing Instruction None max. None
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Specified Chemical Substances : N

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Substances Subject to Notification : N

Poisonous and Deleterious Subst. Control Law : N**Fire Service Law** : N**Law for Promoting the Management of Chemical Substances (PRTR Law)** : N**Law for Safety of Vessels** : N**Air Law** : N

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