



Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2012)

SAFETY DATA SHEET

KODAK C41 RA Fixer and Replenisher

SECTION 1: IDENTIFICATION

1.1. Product identifier

Trade name: KODAK C41 RA Fixer and Replenisher
Obtain special instructions before use.

Product no.: 5199054

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

▼ **Relevant identified uses of the substance or mixture:** Photo chemical for developing color negative film.

Uses advised against : None known.

1.3. Details of the supplier of the safety data sheet

Company and address: **Photo Systems Inc.**
7190 Huron River Drive
MI 48130 Dexter
USA
Tel: +1 (734) 424-9625
Fax: +1-734-580-2199
www.photosys.com

For further information about this product email EHS-Questions @photosys.com

Manufacturer: **Photo Systems Inc.**
7190 Huron River Drive
MI 48130 Dexter
USA
Tel: +1 (734) 424-9625
Fax: +1-734-580-2199
www.photosys.com

Contact person: Jake Bolt

E-mail: jake@photosys.com

SDS date: 7/10/2024

SDS Version: 1.0

Date of previous version: 3/1/2024 (1.0)

1.4. Emergency telephone number

Contact the poison control at 1-800-222-1222 (24/7) or use the webPOISONCONTROL® (triage.webpoisoncontrol.org) to get specific guidance for your case
See also section 4 "First aid measures".



Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2012)

SECTION 2: HAZARD(S) IDENTIFICATION

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

2.1. Classification of the substance or mixture

Eye Irrit. 2; H319, Causes serious eye irritation.

2.2. Label elements

Hazard pictogram(s):



Signal word:

Warning

Hazard statement(s):

Causes serious eye irritation. (H319)

Precautionary statement(s):

General:

If medical advice is needed, have product container or label at hand. (P101)
Keep out of reach of children. (P102)

Prevention:

Wash hands thoroughly after handling. (P264)
Wear eye protection/protective gloves/protective clothing. (P280)

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338)
If eye irritation persists: Get medical advice/attention. (P337+P313)

Storage:

-

Disposal:

-

Additional labelling:

Not applicable.

2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable. This product is a mixture.

3.2. Mixtures

Product/substance	Identifiers	% w/w	Classification	Note
Ammonium Thiosulfate 60% Solution	CAS No.: 7783-18-8	40-60%		
Disodium disulphite	CAS No.: 7681-57-4	1-3%	Acute Tox. 4, H302 Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Dam. 1, H318	



Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2012)

Ammonium hydroxide 29% solution	CAS No.: 1336-21-6	<1%	Skin Corr. 1B, H314 STOT SE 3, H335	
EDTA disodium salt dihydrate	CAS No.: 6381-92-6	<0.25%	Acute Tox. 4, H332 STOT RE 2, H373	

Where the concentration of an ingredient is expressed as a range the exact concentration has been withheld as a trade secret.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information

-

SECTION 4: FIRST-AID MEASURES

4.1. Description of first aid measures

General information:

If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 911 and give immediate treatment (first aid).

Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

Inhalation:

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her. Get medical attention if symptoms occur.

Skin contact:

Immediately flush skin with plenty of water. Remove contaminated clothing. Get medical attention in if symptoms occur or in case of eczema or other skin disorders.

Eye contact:

If in eyes: Flush eyes immediately with plenty of water or isotonic water (20-30 °C) for at least 5 minutes and continue until irritation stops. Remove contact lenses. Make sure to flush under upper and lower eyelids. If irritation continues, contact a doctor. Continue flushing during transport.

Ingestion:

If the person is conscious, rinse the mouth with water and stay with the person. Never give the person anything to drink.

In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.

Burns:

Not applicable.



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4.2. Most important symptoms and effects, both acute and delayed

Most important known symptoms and effects are described in the labeling (see Section 2.2 and in Section 11.)

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

If eye irritation persists: Get medical advice/attention.

Information to medics

Bring this safety data sheet or the label from this product.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.

Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

5.2. Special hazards arising from the substance or mixture

In the event of fire, incompatible materials are Acids, Strong bases, Sodium hypochlorite (bleach), Halogenated materials. Contact with strong acids may liberate sulfur dioxide. Contact with strong bases may liberate ammonia. Contact with sodium hypochlorite (bleach) may liberate chloramine (toxic gas). Hazardous decomposition products are Ammonia, Chloramine, Nitrogen oxides (NOx), Sulfur oxides.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact the Poison Help Line on 1-800-222-1222 (24/7) in order to obtain further advice.

No unusual fire or explosion hazards noted

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Use personnel protective equipment and clothing recommended in Section 8.

Ensure adequate ventilation, especially in confined areas.

Contaminated areas may be slippery.

6.2. Environmental precautions

Prevent product from entering drains, water courses or onto the ground.

Avoid discharge to lakes, streams, sewers, etc.

Keep unauthorized persons away from the spill

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. Reference to other sections

See section 13 "Disposal considerations" on handling of waste.

See section 8 "Exposure controls/personal protection" for protective measures.



Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2012)

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get this material in contact with eyes. Do not taste or swallow. Avoid contact with skin and clothing. Avoid prolonged exposure. When using, Do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling.

Smoking, drinking and consumption of food is not allowed in the work area.

See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage material: Keep only in original packaging.

Storage temperature: Dry, cool and well ventilated

Incompatible materials: Acids
Strong oxidizing agents

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational Exposure Limits

Disodium disulphite

Long term exposure limit (ACGIH TLV) (mg/m³): 5 mg/m³

Long term exposure limit (NIOSH REL) (mg/m³): 5 mg/m³

Part 1910 - Occupational Safety and Health Standards (29 CFR 1910.1000 TABLE Z-1 - Limits for Air Contaminants)

8.2. Exposure controls

Good ventilations (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation or other engineering controls to maintain airborne levels below recommended exposure limits. Compliance with the given occupational exposure limits values should be controlled on a regular basis.

General recommendations: Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios: There are no exposure scenarios implemented for this product.

Exposure limits: Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

Appropriate technical measures: The formation of vapours must be kept at a minimum and below current limit values (see above). Installation of a local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure eyewash and emergency showers are clearly marked. Apply standard precautions during use of the product. Avoid inhalation of vapours.

Hygiene measures: In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Pay special attention to hands, forearms and face.

Measures to avoid environmental exposure: No specific requirements.

Individual protection measures, such as personal protective equipment

Generally: Use only protective equipment with a recognized certification mark, e.g. the UL mark.

Respiratory Equipment:

Type	Class	Colour	Standards	
Respiratory protection is not needed in the event of adequate ventilation.				
Self contained breathing apparatus			EN137, EN139	

Skin protection:

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn.	-	-	

Hand protection:

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Gloves	-	-	EN374	

Eye protection:

Type	Standards	
Safety glasses with side shields.	EN166	

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES



Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2012)

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Clear
Odour:	Ammonia odor
Odour threshold (ppm):	No data available
pH:	7.5
Density (g/cm³):	Testing not relevant or not possible due to the nature of the product. -
Relative density:	1.2
Kinematic viscosity:	No data available
Particle characteristics:	Not applicable

Phase changes

Melting point (°F):	No data available
Softening point/range (°F):	Does not apply to liquids.
Boiling point (°F):	212
Boiling point (°C):	100
Vapour pressure:	18 mmHg
Relative vapour density:	0.6
Decomposition temperature (°F):	No data available

Data on fire and explosion hazards

Flash point (°F):	Not applicable
Flammability (°F):	Not applicable
Auto-ignition temperature (°F):	No data available
Explosion limits (% v/v):	Not applicable

Solubility

Solubility in water:	Completely soluble
n-octanol/water coefficient (LogKow):	Testing not relevant or not possible due to the nature of the product.
Solubility in fat (g/L):	Testing not relevant or not possible due to the nature of the product.

9.2. Other information

Sensitivity to shock:	No
Evaporation rate (n-butylacetate = 100):	No data available
Other physical and chemical parameters:	No data available.
Oxidizing properties:	Not applicable



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SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

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

10.2. Chemical stability

The product is stable under the conditions, noted in section 7 "Handling and storage".

10.3. Possibility of hazardous reactions

Hazardous polymerization does not occur.

10.4. Conditions to avoid

Incompatible materials.

10.5. Incompatible materials

Acids

Strong oxidizing agents

Bases

Sodium hypochlorite (bleach)

Halogenated materials

10.6. Hazardous decomposition products

Nitrogen oxides (NOx). Sulfur oxides. Ammonia. Chloramine.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Expected to be a low hazard for recommended handling.

Acute toxicity

Harmful if swallowed.

Skin corrosion/irritation

No adverse effects due skin contact are expected.

Prolonged skin contact may cause temporary irritation.

Serious eye damage/irritation

Direct contact with eyes may cause temporary irritation.

Respiratory sensitisation

Not a respiratory sensitizer.

Skin sensitisation

This product is not expected to cause skin sensitization.

Germ cell mutagenicity

No data available to indicate product or any components present at greater than 1% are mutagenic or genotoxic.

Carcinogenicity

Not classified as to carcinogenicity to humans.

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects.

STOT-single exposure

Not classified.



Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2012)

STOT-repeated exposure

None known.

Aspiration hazard

Based on available data, the classification criteria are not met.

Long term effects

Prolonged inhalation may be harmful. Mist or vapors irritating.

Other information

None known.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.2. Persistence and degradability

Readily biodegradable

12.3. Bioaccumulative potential

Based on available data, the classification criteria are not met.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

12.6. Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Treatment Methods: Product waste material must be disposed of in accordance with the national and local regulations. handle uncleaned containers like the product itself.

RCRA Hazardous waste ("P" and "U" list) (40 CFR 261)

None of the components are listed

Specific labelling

Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: TRANSPORT INFORMATION



Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2012)

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
DOT	-	Not regulated as dangerous goods entry		-	No	See below for additional information.
IMDG	-	Not regulated as dangerous goods entry		-	No	See below for additional information.
IATA	-	Not regulated as dangerous goods entry		-	No	See below for additional information.

* Packing group

** Environmental hazards

Additional information

Not dangerous goods according to DOT, IATA and IMDG.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No data available.

SECTION 15: REGULATORY INFORMATION

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

15.2. U.S. Federal regulations

TSCA (the non-confidential portion):

Ammonium Thiosulfate 60% Solution is listed
Disodium disulphite is listed
Ammonium hydroxide 29% solution is listed

Clean Air Act:

None of the components are listed

EPCRA Section 302:

None of the components are listed

EPCRA Section 304:

None of the components are listed

EPCRA section 313:

Ammonium hydroxide 29% solution is listed

CERCLA:

Ammonium hydroxide 29% solution is regulated with a Reportable Quantity (RQ) of: 1000 pounds

State regulations

California / Prop. 65:

None of the components are listed

Massachusetts / Right To Know Act:

Ammonium Thiosulfate 60% Solution is listed
Disodium disulphite is listed
Ammonium hydroxide 29% solution is listed

New Jersey / Right To Know Act:

Disodium disulphite / Substance number: 1708
Disodium disulphite is on the Special Health Hazard Substance List



Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2012)

New York / Right To Know Act:

—
Ammonium hydroxide 29% solution / Substance number:
0103

Ammonium hydroxide 29% solution is on the Special
Health Hazard Substance List

—
Ammonium Thiosulfate 60% Solution is listed
Ammonium Thiosulfate 60% Solution is regulated with a
Treshold Reporting Quantity (TRQ) of: 100 pounds

—
Disodium disulphite is listed
Disodium disulphite is regulated with a Treshold Reporting
Quantity (TRQ) of: 0 pounds

—
Ammonium hydroxide 29% solution is listed
Ammonium hydroxide 29% solution is regulated with a
Reportable Quantity (RQ) of: 1000 pounds
Ammonium hydroxide 29% solution is regulated with a
Treshold Reporting Quantity (TRQ) of: 100 pounds

Pennsylvania / Right To Know Act:

—
Ammonium Thiosulfate 60% Solution is listed
Ammonium Thiosulfate 60% Solution is hazardous to the
environment (E)

—
Disodium disulphite is listed

—
Ammonium hydroxide 29% solution is listed
Ammonium hydroxide 29% solution is hazardous to the
environment (E)

NFPA

Health hazard: 1
Fire hazard: 0
Instability hazard: 0

15.4. Restrictions for application

No special.

15.5. Demands for specific education

No specific requirements.

15.6. Additional information

Not applicable.

15.7. Chemical safety assessment

No

15.8. Sources

OSHA Hazard Communication Standard (29 CFR 1910.1200)

SECTION 16: OTHER INFORMATION

Full text of H-phrases as mentioned in section 3



Conforms to OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 / revised 2012)

H302, Harmful if swallowed.
H314, Causes severe skin burns and eye damage.
H315, Causes skin irritation.
H317, May cause an allergic skin reaction.
H318, Causes serious eye damage.
H332, Harmful if inhaled.
H335, May cause respiratory irritation.
H373, May cause damage to organs through prolonged or repeated exposure.

The full text of identified uses as mentioned in section 1

None known.

Abbreviations and acronyms

ACGIH = American Conference of Governmental Industrial Hygienists
ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CERCLA = Comprehensive Environmental Response Compensation and Liability Act
DOT = Department of Transportation
EINECS = European Inventory of Existing Commercial chemical Substances
EPCRA = Emergency Planning and Community Right-To-Know Act
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
HCIS = Hazardous Chemical Information System
HNOC = Hazards Not Otherwise Classified
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NFPA = National Fire Protection Association
NIOSH = National Institute for Occupational Safety and Health
OECD = Organisation for Economic Co-operation and Development
OSHA = Occupational Safety and Health Administration
PBT = Persistent, Bioaccumulative and Toxic
RCRA = Resource Conservation and Recovery Act
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SARA = Superfund Amendments and Reauthorization Act
SCL = A specific concentration limit.
STEL = Short-term exposure limits
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TSCA = The Toxic Substances Control Act
TWA = Time weighted average
UN = United Nations
UVBC = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative



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Additional information

The classification of the mixture in regard of health hazards is in accordance with the calculation methods given by HCS (29 CFR 1910.1200).

The safety data sheet is validated by

Validated by Photo Systems Inc./cf

▼ Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product.

Information in this safety data sheet cannot be used as a product specification.

DISCLAIMER: The information contained in this Safety Data Sheet is correct to the best of our knowledge and experience at the time of publication. However, no warranty is expressed or implied regarding the accuracy of this data nor the results to be obtained from the use thereof. It is the user's responsibility to assure the proper use, storage, and disposal of these materials to ensure the safety and health of the user and to protect the environment.

Country-language: US-en