Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Product name: FLASH Manual Fixer

Other means of identification
Product code: 1054444FIX
Synonyms No information available

Recommended use of the chemical and restrictions on use
Product Use: Restricted to professional users. Photographic chemical.
Uses advised against No information available

Details of the supplier of the safety data sheet
Supplier:
FLASH MED SUPPLY LLC.
780 NW 42nd. Avenue, Suite 3
Miami FL 33126 USA
Phone: 305-476-8359

Emergency telephone number
CHEMTREC: CHEMTREC Brazil: +(55)-2139581449

Section 2: HAZARDS IDENTIFICATION

Most Important Hazards

Acute toxicity - Oral	Category 5
Serious eye damage/eye irritation	Category 2A

Label elements

Signal word Warning

hazard statements
H303 - May be harmful if swallowed
H319 - Causes serious eye irritation

Precautionary Statements
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P312 - Call a POISON CENTER or doctor if you feel unwell
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention

Other Information
Other hazards None known.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture Mixture

Chemical Name	CAS-No	Weight %
Water 7732-18-5	7732-18-5	40-50
Ammonium thiosulfate 7783-18-8	7783-18-8	30-40
Sodium bisulfite 7631-90-5	7631-90-5	1-5
Ammonium bisulfite 10192-30-0	10192-30-0	1-5
Ammonium acetate 631-61-8	631-61-8	1-5
Sodium borate 1330-43-4	1330-43-4	1-2
Aluminum sulfate 10043-01-3	10043-01-3	1-5
Acetic acid 64-19-7	64-19-7	0.1-1.0

Section 4: FIRST AID MEASURES

First Aid Measures

Inhalation Move to fresh air. Get medical attention immediately if symptoms occur.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Get medical attention immediately if symptoms occur.

Eye contact In case of contact, immediately flush eyes with plenty of water. Get medical attention immediately if symptoms occur.

Ingestion Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

Main Symptoms Causes serious eye irritation.

Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media

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

Unsuitable Extinguishing Media No information available.

Specific extinguishing methods

Evacuate area and fight fire from a safe distance.

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

Specific hazards arising from the chemical
Dried product residue can act as a reducing agent. Reacts violently with oxidizing materials. May cause spontaneous heating and ignition when absorbed on combustible, porous material (e.g. rags, paper, sawdust, cotton, clothing).

Explosive properties

Sensitivity to Mechanical Impact	No.
Sensitivity to Static Discharge	No.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes. For personal protection see section 8. Ensure adequate ventilation.

Environmental precautions

Environmental precautions Do not allow material to contaminate ground water system. Try to prevent the material from entering drains or water courses. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly.

Section 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Wash thoroughly after handling.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place.

Incompatible products Acids. Strong bases. Sodium hypochlorite. Halogenated compounds. Contact with strong acids liberates sulfur dioxide. Oxidizing agents.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	Brazil	Chile	Argentina	Venezuela
Sodium bisulfite			TWA: 5 mg/m^3	TWA: 5 mg/m^3
Sodium borate			TWA: 1 mg/m^3	TWA: 1 mg/m^3
Aluminum sulfate		TWA: 1.6 mg/m^3	TWA: 2 mg/m^3	TWA: 2 mg/m^3

Acetic acid	TWA: 8 ppm TWA: 20 mg/m³	TWA: 8 ppm TWA: 20 mg/m³ STEL: 15 ppm STEL: 37 mg/m³	TWA: 10 ppm STEL: 15 ppm	TWA: 10 ppm STEL: 15 ppm

Appropriate engineering controls

Engineering Measures Apply technical measures to comply with the occupational exposure limits.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles.

Skin and body protection Wear protective gloves/ protective clothing.

Respiratory protection None under normal use conditions. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid		
Appearance	Colorless Liquid	**Odor**	Ammonia
Color	colorless	**Odor Threshold**	No information available

Property	**Values**	**Remarks/ • Method**
ph	4.9	No information available
Melting point/range:		No information available
Boiling point/boiling range	> 100 °C	No information available
Flash Point		No information available
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		
upper flammability limit		
lower flammability limit		
Vapor pressure	24	No information available
Vapor density	0.6	No information available
Specific Gravity		No information available
Water Solubility VALUE	completely soluble	No information available
Solubility in other solvents		No information available
Partition coefficient: n-octanol/water		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, kinematic		No information available
Viscosity, dynamic		
Explosive properties	No information available	
Oxidizing Properties	No information available	
Softening point	No information available	
VOC Content	No information available	
Density VALUE	No information available	
Bulk Density VALUE	No information available	

Section 10: STABILITY AND REACTIVITY

Reactivity

None under normal use conditions.

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Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

Contact with strong acids liberates sulfur dioxide. Contact with sodium hypochlorite (bleach) may form chloramine (toxic gas). Contact with bases liberates flammable material and ammonia.

Conditions to Avoid

Do not freeze.

Incompatible Materials

Acids. Strong bases. Sodium hypochlorite. Halogenated compounds. Contact with strong acids liberates sulfur dioxide. Oxidizing agents.

Hazardous Decomposition Products

Ammonia. Chloramine. Sulfur oxides.

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea. Contact with strong acids liberates sulfur dioxide. May cause irritation of respiratory tract.

Eye contact Expected to be an irritant based on components.

Skin contact Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Ingestion May be harmful if swallowed. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ammonium thiosulfate	> 2000 mg/kg (Rat)	-	-
Sodium bisulfite	1420 mg/kg (Rat)	-	-
Potassium acetate	3250 mg/kg (Rat) Oral LD50 Rat 3250 mg/kg (Source: NLM_CIP)	-	-
Sodium borate	2660 mg/kg (Rat) Oral LD50 Rat 2660 mg/kg (Source: IUCLID)	2000 mg/kg (Rabbit) Dermal LD50 Rabbit >2000 mg/kg (Source: IUCLID)	-
Aluminum sulfate	> 5000 mg/kg (Rat)	-	-

Information on toxicological effects

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes.

Corrosivity No information available.

Sensitization No information available.

mutagenic effects No information available.

Carcinogenicity Contains no ingredient listed as a carcinogen.

Reproductive toxicity Contains a known or suspected reproductive toxin. However, based on available data the product should not be classified for reproductive effects.

Developmental Toxicity No information available.

Chronic toxicity Prolonged exposure may cause chronic effects.

Target Organ Effects Eyes, Skin, Respiratory system.

Neurological effects No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

4.15% of the mixture consists of ingredient(s) of unknown toxicity

Oral LD50 4,427.00 mg/kg (ATE)

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity
0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Sodium bisulfite			*119: 48 h Daphnia magna mg/L EC50*
Potassium acetate		*6800: 96 h Oncorhynchus mykiss mg/L LC50 semi-static*	
Sodium borate	*2.6 - 21.8: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 158: 96 h Desmodesmus subspicatus mg/L EC50*	*340: 96 h Limanda limanda mg/L LC50*	*1085 - 1402: 48 h Daphnia magna mg/L LC50*

Persistence and degradability Expected to be readily biodegradable.

Bioaccumulation: No information available.

Mobility No information available.

Chemical Name	log Pow
Acetic acid	-0.31

Other adverse effects
No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste from Residues / Unused Products Dispose of in accordance with local regulations.

Contaminated packaging Dispose of in accordance with local regulations.

Section 14: TRANSPORT INFORMATION

The information given below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions. Please consult the product packaging for further details.

IMDG/IMO Not regulated

ICAO Not regulated

ICAO/IATA Not regulated

DOT Not regulated

TDG Not regulated

MEX Not regulated

RID Not regulated

ADR/RID Not regulated

ADN Not regulated

For transportation information, go to: http://ship.carestreamhealth.com.

Section 15: REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Section 16: OTHER INFORMATION

Revision Date 2014-03-26

Revision Note Update of SDS.

This material safety data sheet has been prepared according to Brazilian legislation and ABNT NBR 14725:2009

Disclaimer
The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.