

SAFETY DATA SHEET

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product name: FLASH Manual Developer

Other means of identification

Product code: 1054444DEV

UN/ID No UN3082

Synonyms No information available

Recommended use of the chemical and restrictions on use

Product Use: Photographic chemical. Restricted to professional users.

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 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 2
Acute aquatic toxicity	Category 1

Label elements



Signal word

Danger

hazard statements

H302 - Harmful if swallowed
H318 - Causes serious eye damage
H317 - May cause an allergic skin reaction
H341 - Suspected of causing genetic defects
H351 - Suspected of causing cancer
H400 - Very toxic to aquatic life

Precautionary Statements

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P272 - Contaminated work clothing should not be allowed out of the workplace
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant
P312 - Call a POISON CENTER or doctor if you feel unwell

Other Information

Other hazards

Contact with strong acids liberates sulfur dioxide. May cause respiratory irritation. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. May cause adverse liver effects. May cause adverse kidney effects.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Water 7732-18-5	7732-18-5	60-70
Potassium sulfite 10117-38-1	10117-38-1	5-10
Diethylene glycol 111-46-6	111-46-6	5-10
Hydroquinone 123-31-9	123-31-9	5-10
Sodium sulfite 7757-83-7	7757-83-7	5-10
Potassium carbonate 584-08-7	584-08-7	1-5
Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt 140-01-2	140-01-2	1-5
Sodium borate 1330-43-4	1330-43-4	0.1-1

Section 4: FIRST AID MEASURES

First Aid Measures

Inhalation

Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

Skin contact

Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. Get medical attention immediately if symptoms occur.

Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately if symptoms occur.
Ingestion	If swallowed, call a poison control center or doctor immediately. Do not induce vomiting without medical advice. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person.
Protection of First-aiders	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
<u>Most important symptoms and effects, both acute and delayed</u>	
Main Symptoms	Coughing and/ or wheezing. Irritation. rash.
<u>Indication of any immediate medical attention and special treatment needed</u>	
Notes to physician	Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical, CO₂, water spray or regular foam.

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

Keep product and empty container away from heat and sources of ignition.

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

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. 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

When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs. Remove and wash contaminated clothing before re-use.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Incompatible with oxidizing agents.

Incompatible products

Strong oxidizing agents. Acids.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	Brazil	Chile	Argentina	Venezuela
Hydroquinone		TWA: 1.6 mg/m ³	TWA: 2 mg/m ³	TWA: 2 mg/m ³
Sodium borate			TWA: 1 mg/m ³	TWA: 1 mg/m ³

Appropriate engineering controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Tightly fitting safety goggles.

Skin and body protection

Wear suitable protective clothing.

Hand Protection

Impervious gloves.

Respiratory protection

None under normal use conditions. In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit. Wear a positive-pressure supplied-air respirator with full facepiece.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state

liquid

Appearance

light yellow Liquid

Color

light yellow

Odor

Odorless

Odor Threshold

No information available

Property

Values

Remarks/ • Method

ph

10.2

No information available

Melting point/range:

No information available

Boiling point/boiling range

> 100 °C

No information available

Flash Point

> 93 °C

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.

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

Contact with strong acids liberates sulfur dioxide.

Conditions to Avoid

Heat, flames and sparks.

Incompatible Materials

Strong oxidizing agents. Acids.

Hazardous Decomposition Products

Carbon oxides, Sulfur oxides.

Section 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	No hazard from product as supplied. May cause irritation of respiratory tract. Contact with strong acids liberates sulfur dioxide. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.
Eye contact	Irritating to eyes.
Skin contact	May cause skin irritation and/or dermatitis. Prolonged or repeated contact may dry skin and cause irritation.
Ingestion	Harmful if swallowed. May cause adverse kidney effects. May cause central nervous system effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. 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
Diethylene glycol	12565 mg/kg (Rat)	11890 mg/kg (Rabbit)	-
Hydroquinone	320 mg/kg (Rat) Oral LD50 Rat 320 mg/kg (Source: IUCLID)	> 4800 mg/kg (Rat)	-

Sodium sulfite	820 mg/kg (Rat) Oral LD50 Rat 820 mg/kg (Source: IUCLID)	-	22 mg/L (Rat) 1 h Inhalation LC50 Rat >22 mg/L 1 h (Source: IUCLID)
Potassium carbonate	1870 mg/kg (Rat) Oral LD50 Rat 1870 mg/kg (Source: IUCLID)	>2000 mg/kg (Rabbit)	-
Sodium bromide	3400 mg/kg (Rat) Oral LD50 Rat 3400 mg/kg (Source: IUCLID)	> 2000 mg/kg (Rabbit)	-
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)	-

Information on toxicological effects

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

Irritation	Causes severe irritation and or burns.
Corrosivity	No information available.
Sensitization	May cause sensitization by skin contact.
mutagenic effects	No specific testing was done on this product. Mutagenic testing of the hazardous ingredient in this product has resulted in some positive mutagenic results.
Carcinogenicity	Contains a known or suspected carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Hydroquinone	A3			

ACGIH: (American Conference of Governmental Industrial Hygienists) A3 - Animal Carcinogen

Reproductive toxicity	Contains ingredients that are suspected reproductive hazards. However, based on available data the product should not be classified for reproductive effects.
Developmental Toxicity	No information available.
Chronic toxicity	Effects expected to be similar to those seen acutely.
Target Organ Effects	Skin, Eyes, Respiratory system, Central nervous system, Kidney, Liver.
Neurological effects	No information available.

Numerical measures of toxicity - Product Information

9.7% of the mixture consists of ingredient(s) of unknown toxicity

Oral LD50 2097 mg/kg (ATE)

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Diethylene glycol		75200: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through	84000: 48 h <i>Daphnia magna</i> mg/L EC50
Hydroquinone	0.335: 72 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50	0.1 - 0.18: 96 h <i>Pimephales promelas</i> mg/L LC50 static 0.044: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 0.044: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 0.17: 96 h <i>Brachydanio rerio</i> mg/L LC50	0.29: 48 h <i>Daphnia magna</i> mg/L EC50
Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt	2.6: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50	1005 - 1250: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 300: 96 h <i>Pimephales promelas</i> mg/L LC50 static	500: 48 h <i>Daphnia magna</i> mg/L EC50

Sodium bromide	5800 - 24000: 96 h <i>Scenedesmus pannonicus</i> mg/L EC50	0.054 - 0.081: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 15614 - 17428: 96 h <i>Pimephales promelas</i> mg/L LC50 static 16000 - 24000: 96 h <i>Poecilia reticulata</i> mg/L LC50 flow-through 24000 - 96000: 96 h <i>Oryzias latipes</i> mg/L LC50 flow-through 16000: 96 h <i>Poecilia reticulata</i> mg/L LC50 semi-static 24000: 96 h <i>Oryzias latipes</i> mg/L LC50 semi-static 1000: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 1000: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static	5700 - 10800: 48 h <i>Daphnia magna</i> mg/L EC50 Static 5800 - 48000: 48 h <i>Daphnia magna</i> mg/L EC50
Sodium borate	2.6 - 21.8: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50 static 158: 96 h <i>Desmodesmus subspicatus</i> mg/L EC50	340: 96 h <i>Limanda limanda</i> mg/L LC50	1085 - 1402: 48 h <i>Daphnia magna</i> mg/L LC50

Persistence and degradability

No data is available on the product itself. Expected to be readily biodegradable.

Bioaccumulation:

No information available.

Mobility

No information available.

Chemical Name	log Pow
Diethylene glycol	-1.98
Hydroquinone	0.5
Sodium sulfite	-4
Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt	-3.05

Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste from Residues / Unused Products

Should not be released into the environment. 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

Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
UN/ID No	UN3082
Packing Group	III
EmS No.	F-A, S-F
Special Provisions	274, 335

Description	UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9, III, Marine Pollutant, Limited Quantity
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ICAO

UN/ID No	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
Packing Group	III
Special Provisions	A97, A158
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9, III

ICAO/IATA

UN/ID No	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
Packing Group	III
Special Provisions	A97, A158
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9, III

DOT

Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
UN/ID No	UN3082
Packing Group	III
Special Provisions	8, 146, 173, 335, IB3, T4, TP1, TP29
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9, III, Marine Pollutant, Limited Quantity

TDG

Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
UN/ID No	UN3082
Packing Group	III
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9, III, Marine Pollutant, Limited Quantity

MEX

Proper Shipping Name	Environmentally hazardous substances, liquid, n.o.s.
Hazard class	9
UN/ID No	UN3082
Packing Group	III
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9, III

RID

Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
UN/ID No	UN3082
Packing Group	III
Classification Code	M6
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9, III

ADR/RID

Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
UN/ID No	UN3082
Packing Group	III

Classification Code	M6
Special Provisions	274, 335, 601
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9, III, (E), Limited Quantity

ADN

Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
UN/ID No	UN3082
Packing Group	III
Classification Code	M6
Special Provisions	274, 335, 601
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9, III
Limited quantity DFDA	5 L

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	2014-03-25
Revision Note	Initial Release.

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.