




Material Safety Data Sheet

According to Regulation No 1907/2006/EC – REACH, No. 2015/830 and No 1272/2008/EC - CLP

Date of revision: 02/16/2016 Version No: 5.0
Replaced version No: 4.1

SECTION 1	Identification of the substance/mixture and of the company/undertaking	
1.1	Product identifier	Black and white reversal film set, part A
	Other name or labeling of product:	
1.2	Relevant identified uses of the substance or mixture and uses advised against	
	Concentrate of developer for processing of Fomapan R100	
1.3	Details of the supplier of the safety data sheet	
	Supplier : Downstream User (Producer Mixture)	FOMA BOHEMIA spol. s r.o.(Ltd.) J. Krušinky 1737/6, 500 02 Hradec Králové tel: 495 733 111
	E-mail address and phone number	ilona.spackova@foma.cz +420495733368
1.4	Emergency telephone number (Czech)	Toxicologic institute (TIS) Na Bojišti 1, 128 21 Praha 2 Tel. 224919293, 224915402 (continuous telephone information service)

SECTION 2	Hazards identification	
2.1	Classification (according to Regulation No 1272/2008 – CLP)	
	Carc.2;H351 Muta 2;H341 Eye Irrit.2;H319 Skin Irrit.2;H315 SkinSens.1;H317 Aquatic Acute 1;H400 Aquatic Chronic2;H411	
	<u>The most important adverse physicochemical, human health and environmental effects:</u> Upon contact with the eyes can cause serious irritation. Suspected of causing cancer and genetic defects by long term exposure. .May cause an allergic skin reaction. Acute toxicity to aquatic organisms with long lasting effects.	

2.2	Label elements (according to Regulation No 1272/2008/EC– CLP)	
<i>Identification of product</i>		Black and white reversal film set, part A
<i>hazard pictogram</i>		
<i>signal word</i>		Warning
<i>hazard statement(s) (H-, phrases)</i>	H351 H341 H315 H319 H317 H410	Suspected of causing cancer Suspected of causing genetic defects Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction Very toxic to aquatic life with long lasting effects
<i>precautionary statement (P- phrases)</i>	P102 P262 P305+P351+P338 P308+P313 P273 P501	Keep out of reach of children Do not get in eyes, on skin, or on clothing. IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing IF exposed or concerned: Get medical advice/attention. Avoid release to the environment Dispose of contents/container to collecting place for dangerous waste in accordance with national regulations.
		Contain: hydroquinone, potassium hydroxide
		FOMA BOHEMIA spol. s r.o., J. Krušinky 1737/6, 500 02 Hradec Králové tel: 495 733 111

2.3	Other hazards
	The substance does not belong to the category of PBT, vPvB, SVHC

SECTION 3	Composition/information on ingredients					
3.2	Mixtures					
Folder name	Registration number	Index number	CAS number	ES number	Content % in the solution	Classification
Potassium carbonate	01-2119532646-36-0000	Not available	584-06-7	209-529-3	< 8	Eye Irrit.2;H319 Skin Irrit.2;H315 STOT SE 3;H335
Hydroquinone	01-2119524016-51-xxxx	604-005-00-4	123-31-9	204-617-8	< 3	Carc.2;H351 Muta.2;H341 AcuteTox.4;H302 EyeDam.1;H318 Skin Sens.1;H317 Aquatic Acute1;H400,M(acute)=10 *Aquatic Chronic1;H410, *M(chronic)=1
Potassium hydroxide	01-2119487136-33	019-002-00-8	1310-58-3	215-181-3	< 1	SkinCorr.1A;H314 AcuteTox.4;H302 Met.Corr.1;H290

Pentasodium (carboxylatom ethyl)iminobis(ethylenenitrilo) tetraacetate (Dissolvine D88)	01-2119474445-33-0003+01-2119474445-33-0004	Not available	140-01-2	205-391-3	< 0,5	Acute Tox 4;H 332 Eye irrit 2;H319 Skin Iriit. 2;H315 Repr.2;H361
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Solution

(Full text H-phrases... section 16)

SECTION 4	First aid measures
4.1	Description of first aid measures
	Lead the disabled person from the contaminated area, bring him/her into a state of peace and facilitate breathing by loosening clothing, watch, and if necessary maintain its vital functions. If you are experiencing symptoms of acute injury (shortness of breath, persistent cough, chest pain, nausea, impaired sensory perception, fainting, etc.), call a physician or transport the injured person to a doctor.
	After contact with skin: Wash affected area thoroughly with water.
	Eye Contact: Remove any contact lenses and wash eyes with plenty of water as soon as possible. If necessary, use force to open tightly closed eyelids. Take care not to rinse contaminated water into the non-affected eye. Do not neutralize. Seek medical help.
	Exposure by inhalation: Remove patient to fresh air, rinse eyes, mouth and nasal cavity with lukewarm water.
	Ingestion: Calm affected person, rinse his mouth with clean water. Force the affected person to drink a glass of cold water (cca 0,4 dl). Do not induce vomiting. If affected person vomit spontaneously, control to prevent inhalation of vomit. Do not administer either activated charcoal or neutralizing agent. Call a physician or transport the affected person to a doctor.
4.2	Most important symptoms and effects, both acute and delayed
	Not known
4.3	Indication of any immediate medical attention and special treatment needed
	In the workplace, running water and soap.

SECTION 5	Firefighting measures
5.1	Extinguishing media
	The product (liquid) is not flammable. Extinguishing agents must be adapted to burning substances in surrounding.
	Inappropriate extinguishing media: N.a.
5.2	Special hazards arising from the substance or mixture
	At elevated temperatures or by contact with acid can release sulphur dioxide
5.3	Advice for firefighters: Breathing apparatus, workwear

SECTION 6	Accidental release measures
6.1	Personal precautions, protective equipment and emergency procedures

	Take persons not participating in removing the consequences of the accident out of reach. Ventilate enclosed spaces. Use the prescribed personal protective equipment when removing the consequences of the accident. Use breathing apparatus and complete protective suit when working on the disposal of the accident. Smoking and manipulation with open fire is prohibited.
6.2	Environmental precautions
	Do not allow substance to enter soil, sewage system, surface and groundwater.
6.3	Methods and material for containment and cleaning up
	Let soak it to inert absorption products. Rinse the affected area thoroughly with water. Small leak strongly dilute with water.
6.4	Reference to other sections
	See section 13

SECTION 7	Handling and storage
7.1	Precautions for safe handling
	Follow the safety rules while working. Wear recommended personal protective equipment. Avoid contact with eyes. Eating, drinking, smoking, working with burning materials and open fire is prohibited while working. Equipment must contain fire extinguishers in enclosed areas, ventilation must be ensured naturally or mechanically in enclosed spaces. Workplaces must be kept clean and escape routes must remain free.
7.2	Conditions for safe storage, including any incompatibilities
	Store in original containers in a cool, dry and well ventilated place. Containers should be stored separately from food. The working solution must be prepared according to the instructions.
7.3	Specific end use(s)
	See in 1.2. , Other uses – not available

SECTION 8	Exposure controls/personal protection
8.1	Control parameters
	Government Regulation No 361/2007 Coll. - Conditions for health workers at work and occupational exposure limits in the air of workplaces and ways of measuring and evaluating. (Czech) Hydroquinone: PEL 2 mg/m ³ NPK-P 4 mg/m ³ Potassium hydroxide PEL 1 mg/m ³ NPK-P 2 mg/m ³ Potassium carbonate PEL 5 mg/m ³ NPK-P 10 mg/m ³ Substance is not listed in Notice. No.432/2003 Coll., Laying down limit values of biological exposure tests: not available

	<p><i>Hydroquinone</i> DNEL : Long-Term – derm., systemic. effect Long-Term – inhal., systemic. effect Long-Term – inhal., local. effect</p> <p>PNEC: Freshwater Marine water Sediment in freshwater Sediment in marine water Intermittent releases Sewage treatment plant(STP) Soil</p>	<p>Workers 128 mg/kg bw/day 7 mg/m³ 1 mg/m³</p> <p>0.000114 mg/L 0.000114 mg/L 0.00098 mg/kg sed dw 0.000097 mg/kg sed dw 0.00134 mg/L 0.71 mg/L 0.000129 mg/kg dw</p>	<p>General 64 mg/kg bw/day 1.74 mg/m³ 0,5 mg/m³</p>
	<p><i>Dissolvine D88</i> DNEL : Long-Term – oral., systemic.effect Long-Term – dermal., systemic.effect Long-Term – inhal., systemic. effect Acute – inhal., local. effect</p> <p>PNEC : Freshwater Marine water Intermittent releases Sediment in freshwater Soil Sewage treatment plant(STP)</p>	<p>Workers 11718mg/kg bw/d 5.7mg/m³ 3.7mg/m³</p> <p>6.4 mg/l 0.64 mg/l 3.1 mg/l 23 mg /kg sediment dw 0.853 mg/kg sediment dw 65 mg/l</p>	<p>General 1. 2mg/kg bw/d 5859mg/kg bw/d 1 mg/m³ 3.7mg/m³</p>
	<p>DNEL : (potassium hydroxide) Long-Term – inhal., local. effect</p>	<p>Workers 1 mg/m³</p>	<p>General 1 mg/m³</p>
8.2	Exposure controls		
	Individual protection measures, incl. protective equipment		
	<p>Technical measures: Working place must be equipped with a local suction and a source of running water if the eyes irrigation and washing of hands or affected parts of skin is needed. Tightly closed containers and equipment, natural and mechanical ventilation. Avoid contact with eyes and mouth, avoid inhalation and skin staining. Eating, drinking and smoking is prohibited while working. Avoid contact with food substances and drinks. After work wash hands with soap and water. Take off polluted clothes if needed.</p>		
	Respiratory protection: During normal handling is not required.		
	Hand protection: Use rubber (PE, nitril) gloves		
	Eye protection: Safety glasses		
	Skin protection: Workwear		
	Environmental exposure: Secure the spaces against the leakage into watercourses, soil and sewage system.		

SECTION 9	Physical and chemical properties
9.1	Information on basic physical and chemical properties

	Appearance	Moderate yellow liquid
	Odour	Moderate, nonspecific
	pH	cca 10.2-10.5
	Melting point/freezing point	cca 0 ° C
	Initial boiling point and boiling range	cca 100 ° C
	Flash point	Fireproof
	Evaporation rate	N.a.
	Flammability	Incombustible
	Upper/lower flammability or explosive limits	Irrelevant
	Vapour pressure	<20 mbar
	Vapour density	Unknown
	Oxidising properties	No
	Relative density	1.24.-1,25 g/cm ³
	Solubility – watter	Solution
	Partition coefficient: n-octanol/water	Unknown
	Auto-ignition temperature	Irrelevant
	Decomposition temperature	N.a.
	Viscosity;	N.a.
	Explosive properties	No
9.2	Other information	
	Fat solubility	N.a.
	Conductivity	N.a.

SECTION 10	Stability and reactivity
10.1	Reactivity Under normal conditions the product is stable
10.2	Chemical stability Under normal conditions the product is stable
10.3	Possibility of hazardous reactions Strong minerale acids
10.4	Conditions to avoid High temperature
10.5	Incompatible materials Alluminium
10.6	Hazardous Decomposition Products

	Possible development of sulfur dioxide at elevated temperatures and reaction with acids
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SECTION 11	Toxicological informations
11.1	Information on toxicological effects
Acute toxicity	Based on available data, the criteria for this classification are not match up
Skin corrosion/irritation	Causes serious skin irritation
Serious eye damage/eye irritation	Causes serious eye irritation
Respiratory or skin sensitisation	May cause an allergic skin reaction
Germ cell mutagenicity	Suspected of causing genetic defects
Carcinogenicity	Suspected of causing cancer
Reproductive toxicity	Based on available data, the criteria for this classification are not match up
Specific target organ toxicity — single exposure	Based on available data, the criteria for this classification are not match up
Specific target organ toxicity — repeated exposure	Based on available data, the criteria for this classification are not match up
Aspiration hazard	Based on available data, the criteria for this classification are not match up
<p><i>Hydroquinone:</i> LDL₀ oral, human : > 29 mg/kg LD₅₀ oral rat: > 320 mg/kg LD₅₀ derm., rabbit : > 2000 mg/kg</p> <p><i>Potassium hydroxide:</i> LD₅₀, orral, rat 273 mg/kg (Medis-Alarm) Dermal irritation: rabbit 50 mg/24 h. Eye irritation: rabbit 1 mg/24h</p> <p><i>Dissolvine D88 (Diethylenetriaminepentaacetic acid, pentapotassium salt):</i> LD₅₀, oral : 4550 mg/kg LD₅₀ , dermal (Diethylenetriaminepentaacetic acid, pentapotassium salt): >2000 mg/kg LC₅₀, inhal. / 4h, (Ethylenediaminetetraacetic acid, disodium salt): 1000-5000 mg/m³</p>	
<u>Likely routes of exposure and symptoms related to the physical, chemical and toxicological characteristics:</u>	
Toxicity oral. (ingestion / swallowing): Ingestion may cause irritation or burns to the digestive tract. It causes nausea.	
Toxicity inhal. (inhalation): The product (solution) is not dangerous.	
Toxicity dermal. May cause irritation (redness) of skin	
Eye Contact: Causes serious eye irritation	
Immediate, delayed and chronic effects of short and long term exposure: Suspected of causing cancer and genetic defects	


SECTION 12	Ecological information	
12.1	Toxicity	
	<p><i>Hydroquinone:</i> LC₅₀(fish)/96h: 0.15 mg/l EC₅₀(daphnia)/24h: 0.11 mg/l EC₅₀(water algae)/72h: 0.33 mg/ LC₅₀(pimephales promelas)/96h: 0.044mg/l *NOEC(daphnia) /21d:0,0057mg/L</p> <p><i>Potassium hydroxide:</i> LD₅₀ (96 h), fish: 100 - 10 mg/l Mortal concentration(24h), fish: 28.6 mg/l (Medis-Alarm) LC₅₀ (24h),Daphnia sp = 270 mg/l</p> <p><i>Dissolvine D88 (Diethylenetriaminepentaacetic acid, pentapotassium salt):</i> LC₅₀/96h,Oncorhynchus mykiss, freshwater , Semistatick: >854 mg/l (OECD 203) EC₅₀/48h,Daphnia carinata,: 310 mg/l (OECD 202)</p> <p>Mixture is highly toxic for aquatic life</p>	
12.2	Persistence and degradability	
	Hydroquinone is considered to be biologically degradable (test OECD 301 C)	
12.3	Bioaccumulative potential	
	It is not expected	
12.4	Mobility in soil	
	N.a., the product is soluble in water	
12.5	Results of PBT and vPvB assessment	
	Not available. Substances are not identified as a PBT or vPvB	
12.6	Other adverse effects	
	WGK = 1	

SECTION 13	Disposal considerations	
13.1	Waste treatment methods	
	Code and type of waste	09 01 01* – aqueous developer solutions 15 01 10 * - packaging containing residues of hazardous substances
	The recommended method of disposal of the substance/preparation:	Spilled product let absorb in inert absorbent material and pass it on to a person who is in charge of its removal. The product cannot be removed together with local or other waste. Do not wash away into sewers.

	The recommended method of disposal of contaminated product packaging:	Emptied containers (after thorough flushing) can be reused, or put away into a container, designated for separate collection (plastics). Possible slight residuals of hydroquinone in the empty, rinsed container, transform into harmless chinone form. (oxidation process)
	Waste legislation	Directive No. 2008/98/ES

SECTION 14	Transport information
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Land transport ADR/RID (cross- border), Maritime transport IMDG, Air transport ICAO-TI and IATA-DGR:

14.1	UN number	3082
14.2	UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,N.O.S. (HYDROQUINONE)
14.3	Transport hazard class(es)	9
14.4	Packing group	III
	Labels	9 
14.5	Environmental hazard	Product contains environmentally hazardous substances: (Hydroquinone). Mixture is environmentally hazardous according to the kriteria of the UN Model Regulations- see to section 12
	Marine pollutant	Yes
14.6	Special precautions for user	See to section 8- Avoid release to the environment
14.7	Transport in bulk according to Annex II of Marpol and the IBC Code	Not expected
Special provisions, remarks:		<p>ADR:The product is carried in single or combination packagings containing a net quantity per single or inner packaging of 5 kg or less and is not subject to any other provisions of ADR provided packaging meet the general provisions of 4.1.1.1., 4.1.1.2 and 4.1.1.4 to 4.1.1.8 (according to chapter 3.3 ADR, special provisions 375)</p> <p>IMDG: The product is packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 kg or less and is not subject to any other provisions of IMDG Code relevant to marine pollutants provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. (according to Chapter 2.10, paragraph 2.10.2.7)</p> <p>ICAO/IATA: The product is transported in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less and is not subject to any other provisions of the IATA Dangerous Goods Regulations provided the packagings used defined standards. (according to part 4.4 , Special provisions A197)</p>

SECTION 15	Regulatory information
15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture
	Regulation (EC) No 1907/2006, registration, evaluation, autorisation, restriction chemicals (REACH) Regulation (EC) No 2015/830, Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures Decree No. 381/2001 Coll. Establishing the Waste Catalogue. Government Regulation No. 361/2007 Coll. On the health conditions of workers at work European Agreement concerning the international carriage of dangerous goods (ADR) International Maritime Dangerous Goods Code (IMDG Code) IATA Dangerous Goods Regulations (DGR)
15.2	Chemical safety assessment
	The chemical safety assessment for the product was'n made.

SECTION 16	Other information
Abbreviations, symbols	
Carc.2	Carcinogenity (Category 2)
Muta 2	Mutagenity (Category 2)
Eye Dam.1	Serious eye damage (Category 1)
Skin Corr. 1A	Skin corrosion
Skin Irrit.2	Skin irritation (Category 2)
Skin Sens.1	Skin sensibilisation (Category 1)
Acute Tox.4	Hazardous to the aquatic environment, acute (Category 4)
Eye Irrit.2	Serious eye irritation (Cat. 2)
Aquatic Acute 1	Hazardous to the aquatic environment, acute (Category 1)
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic (Category 1)
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic (Category 2)
STOT SE 3	Specific target organ toxicity – Single exposure (Category 3)
<p>CLP : Regulation (EC) č.1272/2008 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals SVHC: Substance of very high concerns PBT: Persistent, bioaccumulative and toxic vPvB :(very) Persistent, (very) Bioaccumulative RID: Regulations Concerning the International Transport of Dangerous Goods by Rail ICAO: International Civil Aviation Organisation ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society)</p>	

DNEL: Derived No-Effect Level
 PNEC: Predicted No-Effect Concentration
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 EC50: Median Effective Concentration
 LOAEL: Lowest observed adverse effect level
 NOAEL: No Observed Adverse Effect Level
 NOEC: No Observed Effect Concentration
 NPK-P, PEL: Hygienic limits of chemical substances for working environment (the Czech Republic)
 M: multiplier factor

Materials used for the processing of safety data sheet

Information provided by the producer
 Material Safety Data Sheets (MSDS) for chemical substances
 * registration data on www.echa.europa.cz

Classification (according to Regulation No 1272/2008 – CLP): calculation method

H-phrases :

H351	Suspected of causing cancer
H341	Suspected of causing genetic defects
H302	Harmful if swallowed
H319	Causes serious eye irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage.
H400	Very toxic to aquatic life
H335	May cause respiratory irritation
H315	Causes skin irritation.
H314	Causes severe skin burns and eye damage
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

Guidance regarding the training of workers:

Workers coming into contact with hazardous chemicals or products must have access to data which are presented in this MSDS and be familiar with them clearly.
 Person transporting hazardous chemicals and preparations must be familiar with guidelines for emergency response in accordance with regulations on hazardous goods within the meaning of ADR / RID.
 The information contained in this MSDS are currently valid data and best practices for use and handling of this substance under normal conditions. Any other use or handling of this mixture which is not consistent with those of MSDS excludes the responsibility for defects, more precisely for damage for which the producer, importer or retailer would be otherwise responsible.

Revised safety data sheet:

Revision:

Version 5.0 – new format MSDS (Regulation 2015/830), section 3.2 added substance Dissolvine D88