Material Safety Data Sheet

According to Regulation No 1907/2006/EC – REACH, No. 453/2010 and No 1272/2008/EC - CLP

Version No: 1.0

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SECTION 1	Identification of the substance/mixture and of the company/undertaking	
1.1	Product identifier	**RETRO Special, small part**
	Other name or labeling of product:	-
1.2	Relevant identified uses of the substance or mixture and uses advised against	
	Two-piece powder negative developer for processing negative film RETROPAN 320	
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, 790/2009 – CLP)**
	Carc.2;H351 Muta 2;H341 AcuteTox.4;H302 STOT RE2;H373 Eye Dam.1;H318 SkinSens.2;H317 Aquatic Acute1;H400 Aquatic Chronic1 ;H410
	Classification (according to Directive No 1999/45/ES – (DPD)
	Carc.Cat.3;R40 Muta.Cat.3;R68 Xn;R22, R48/22 Xi;R41, R43 N;R50/53
	<u>The most important adverse physicochemical, human health and environmental effects:</u> Suspected of causing cancer and genetic defects.Harmful if swallowed, strongly irritating to eyes. May cause sensitization by skin contact. Very toxic to aquatic life with long lasting effects.

2.2	Label elements (according to Regulation No 1272/2008/EC, 790/2009/EC – CLP)	
Identification of product		**RETRO Special, small part**
hazard pictogram		
signal word		Danger
hazard statement(s) (H-, phrases)	H351 H341 H302 H373 H318 H317 H410	Suspected of causing cancer Suspected of causing genetic defects Harmful if swallowed May cause damage to organs through prolonged or repeated exposure. Causes serious eye damage May cause an allergic skin reaction Very toxic to aquatic life with long lasting effects.
precautionary statement (P- phrases)	P102 P301+P310 P262 P305+P351+P338 P273 P501	Keep out of reach of children IF SWALLOWED: Immediately call a POISON CENTER/doctor. 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 Avoid release to the environment Dispose of contents/container to collecting place for dangerous waste in accordance with national regulations
		Contain: hydroquinone, metol
		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	
Hydroquinone	01-2119524016-51-xxxx	604-005-00-4	123-31-9	204-617-8	< 80	Carc.2;H351 Muta.2;H341 AcuteTox.4;H302 EyeDam.1;H318 Skin Sens.1;H317 Aquatic Acute1; H400 Aquatic Chronic1; H410 M(acute)=10 M(chronic)=1	CarcCat3; R40 MutaCat3; R68 Xn;R22 Xi;R41,R43 N;R50
Metol Bis(4hydroxy-N-methyanilinium) sulphate	Not available	650-031-00-4	55-55-0	200-237-1	< 30	AcuteTox.4;H302 SkinSens.1;H317 STOT RE2;H373 Aquatic Acute1; H400 Aquatic Chronic1; H410	Xn;R22, R43 Xn;R48/22 N;R50/53

(Full text R, H-phrases… section 16)

SECTION 4	First aid measures
4.1	Description of first aid measures
	Disabled person to lead from the contaminated area, bringing it into a state of peace and to facilitate breathing by loosening clothing, watch, and if necessary to 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 eye as soon as possible wash with plenty water. If necessary, open up violence cramped eyelids. Avoid contamination not contaminated eye wash liquid.. Do not neutralize. Seek medical help.
	Exposure by inhalation: Remove patient to fresh air, warm water rinse eyes, mouth and nasal cavity.
	Ingestion: Affected person calm, clear water rinse. Place to drink a glass (about 0.4 dl) of cold water. Do not induce vomiting. If affected persone vomit spontaneously, control to prevent inhalation of vomit. Do not administer activated charcoal, and no 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 is not very flammable. Extinguishing agents adapt burning nearby.
	Inappropriate extinguishing media: N.a.
5.2	Special hazards arising from the substance or mixture
	When burning, formation of toxic fumes
5.3	Advice for firefighters: Breathing apparatus

SECTION 6	Accidental release measures
6.1	Personal precautions, protective equipment and emergency procedures
	Zoom out persons not participating in the elimination of consequences of the accident out of reach. Ventilate enclosed spaces. When removing the consequences of the accident using the prescribed personal protective equipment. When working on the disposal of the accident contained breathing apparatus and full protective suit. No smoking and treatment with an open fire.
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
	The spilled product by mechanical collection. According to the extent of leakage select the appropriate

	tools: broom, dustpan, vacuum equipment, etc. Minimize dust. Gather into a suitable labeled container for further processing or disposal. Spill site with water. Contaminated washing water contain and remove.
6.4	Reference to other sections
	See section 13

SECTION 7	Handling and storage
7.1	Precautions for safe handling
	While working to comply with basic requirements of safe work. Wear recommended personal protective equipment. Avoid contact with eyes. By manipulation prohibits eating, drinking and smoking, working with hot materials and open flame. Equipment must be equipped with means of extinguishing in enclosed areas, ventilation should be provided, either naturally or forced. Apparatus, which works with the substance must be tight, equipped with emergency escape in case of space (emergency baths, catch pits) and to prevent leakage into the environment. Electrical equipments must be installed in non explosion proof (including lighting). Workplaces must be kept clean and escape routes must remain free.
7.2	Conditions for safe storage, including any incompatibilities
	Store in original container in a cool, dry and well ventilated place. Containers should be stored separately from food. The working solution prepare 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 Substance is not listed in Notice. No.432/2003 Coll., Laying down limit values of biological exposure tests: not available
	DNEL : (hydroquinone) Workers General Long-Term – derm., systemic. effect 128 mg/kg bw/day 64 mg/kg bw/day Long-Term – inhal., systemic. effect 7 mg/m^3 1.74 mg/m^3 Long-Term – inhal., local. effect 1 mg/m^3 0,5 mg/m^3
	PNEC : (hydroquinone) Freshwater 0.114mg/l Seawater 0.0114 mg/l Soil 0.129 ug/kg sediment dw Mikroorganisms in Sewasge Treatment Plant 0.71mg/l
8.2	Exposure controls
	Individual protection measures, incl. protective equipment

	Technical measures: Working with a local source of suction and running water for the irrigation needs of the eyes, wash your hands or contaminated parts of the skin. Tightly closed containers and equipment, natural and mechanical ventilation. Do not allow product to the eyes, mouth, inhalation, skin contact. Do not eat, drink or smoke. Avoid contact with food substances and drinks. After work wash hands with soap and water.
	Respiratory protection: During normal handling is not required. In sensitive people (due to possible respiratory irritation) is recommended when mixing solution respirator use
	Hand protection: Use rubber (PE, nitril) gloves
	Eye protection: Safety glasses
	Skin protection: Workwear
	Environmental exposure: Provide preventing spill into waterways, soil and drainage.

SECTION 9	Physical and chemical properties	
9.1	Information on basic physical and chemical properties	
	Appearance	white powder
	Odour	Moderate, nonspecific
	pH	cca 8,2 (7% solution after mixing big and small part)
	Melting point/freezing point	N.a.
	Initial boiling point and boiling range	N.a.
	Flash point	Fireproof
	Evaporation rate	N.a.
	Flammability	Incombustible
	Upper/lower flammability or explosive limits	Irrelevant
	Vapour pressure	Unknown
	Vapour density	Unknown
	Oxidising properties	No
	Relative density	N.a.
	Solubility – watter	cca 200 g/l
	Partition coefficient: n-octanol/water	Unknown
	Auto-ignition temperature	Irrelevant
	Decomposition temperature	N.a.
	Viscosity;	Irrelevant
	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 mineral acids
10.4	Conditions to avoid
	High temperature
10.5	Incompatible materials
	N.a.
10.6	Hazardous Decomposition Products
	Sulfur oxides

SECTION 11	Toxicological informations
11.1	Information on toxicological effects

Acute toxicity	Harmful if swallowed
Skin corrosion/irritation	Based on available data, the criteria for this classification are not match up
Serious eye damage/eye irritation	Causes serious eye damage
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 —	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

LD_{50} oral rat: 200 mg/kg (metol)
LDL_o oral, human : > 29 mg/kg (hydroquinone)
LD_{50} oral rat: > 320 mg/kg (hydroquinone)
LD_{50} derm., rat : > 9000 mg/kg (hydroquinone)

<u>Likely routes of exposure and symptoms related to the physical, chemical and toxicological characteristics:</u>

Toxicity oral. (ingestion / swallowing):

Ingestion may cause nausea.

Toxicity inhal. (inhalation):

The product is not dangerous. Sensitive individuals may irritate respiratory system

Toxicity dermal.

May cause an allergic skin reaction
Eye Contact: Causes serious eye damage
Immediate, delayed and chronic effects of short and long term exposure: May cause damage to organs through prolonged or repeated exposure

SECTION 12	Ecological information
12.1	Toxicity
	LC_{50}(fish)/96hour: 0,15 mg/l (hydroquinone) EC_{50}(daphnia)/24hour: 0,11 mg/l (hydroquinone) EC_{50}(water algae)/72hour: 0,33 mg/l (hydroquinone) LC_{50}(pimephales promelas)/96hour: 0,044mg/l (hydroquinone) Mixture is higly toxic for aquatic life
12.2	Persistence and degradability
	Hydroquinone is considered to be biologically degradable. Metol is badly biologically degradable.
12.3	Bioaccumulative potential,
	N.a.
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
	N.a.

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:	The spilled product by mechanical collection. Minimize dust. Gather into a suitable labeled container for further processing or disposal. Spill site with water. Contaminated washing water and mix the solution contain and remove. Spilled product let soak up with inert absorbent material and pass the person authorized to remove. Must not be disposed of with household or other waste. Do not wash into sewerage.
	The recommended method of disposal of contaminated product packaging:	Emptied containers pass to the autorized person

	Waste legislation	Directive No. 2008/98/ES

SECTION 14	Transport information

Land transport ADR/RID (cross- border):

UN number	3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,N.O.S. (HYDROQUINONE, METOL)
Transport hazard class(es)	9
Packing group	III
Labels	9 
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Tunel restriction: E
Remarks:	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)

Maritime transport IMDG:

UN number	3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,N.O.S. (HYDROQUINONE, METOL)
IMDG class(es)	9
Packing group	III
EMS number	F-A, S-F
Segregation	Category A
Marine pollutant	Yes
Labels	9 
Remarks:	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 tomarine 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)

Air transport ICAO-TI and IATA-DGR:

UN number	3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,N.O.S. (HYDROQUINONE, METOL)
ICAO/IATA class(es)	9
Packing group	III

Labels	9 
Packing instructions	Passenger aircraft – Packing instruction 956, max. net quantity per package 400 kg Cargo aircraft - Packing instruction 956 max. net quantity per package 400 kg
Remarks	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 and the packagings used meet defined standards. (according to part 4.4 , Special provisions A197)

Environmental hazards	Product contains environmentally hazardous substances: (Hydroquinone, Metol)
Special precautions for user	Avoid release to the environment

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 453/2010 Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures Direction No 67/548/EHS (DSD), 1999/45/ES (DPD) Act No. 350/2011 Coll. On chemical 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) applicable as from 1. January 2015 IMDG Code,MSC 93/22/Add.2 IATA Dangerous Goods Regulations, 56th Edition
15.2	Chemical safety assessment
	The chemical safety assessment for the product was´n made.

SECTION 16	
Abbreviations, symbols	
Carc.2	Carcinogenity (Category 2)
Repr.1B	Reproductive toxicity (Category 1B)
Eye Dam.1	Serious eye damage (Category 1)
Skin Sens.2	Skin sensibilisation (Category 2)
Acute Tox.4	Hazardous to the aquatic environment, acute (Category 4)
Aquatic Acute 1	Hazardous to the aquatic environment, acute (Category 1)
Aquatic Chronic 1	Hazardous to the aquatic environment (Category 1)

Carc.Cat.3	Carcinogenity (Category 3)
Repr.Cat.2	Reproductive toxicity (Category 2)
Xn	harmfull
Xi	irritation
N	hazardous to the aquatic environment
CLP	Regulation (ES) č.1272/2008
DPD	Direction (ES) 1999/45/ES
PBT	Persistent, bioaccumulation, toxic
vPvB	High persistent, high bioaccumulation
SVHC	Substance of very hight concerns
DNEL	Derivated No-Effect Level
PNEC	Prediction No-Effect Concentration

Materials used for the processing of safety data sheet	
Information provided by the producter Material Safety Data Sheets (MSDS) for chemical substances	
R, H-phrases **:**	
H351	Suspected of causing cancer
H341	Suspected of causing genetic defects
H302	Harmful if swallowed
H318	Causes serious eye damage
H317	May cause an allergic skin reaction
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects.
R40	Limited evidence of a carcinogenic effect
R68	Possible risk of irreversible effects
R22	Harmful if swallowed
R41	Risk of serious damage to eyes
R43	May cause sensitisation by skin contact
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R50	Very toxic to aquatic organisms.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
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 substance, which is not consistent with those of MSDS, excludes liability for defects, respectively damage, which would otherwise meet the producter, importer or retailer.

Revised safety data sheet:

Revision: