



Material Safety Data Sheet


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

Date of revision : 01/21/2015

Version No : 2.1
Replaced version 2.0

SECTION 1	Identification of the substance/mixture and of the company/undertaking	
1.1	Product identifier	FOMADON R09
	Other name or labeling of product:	
1.2	Relevant identified uses of the substance or mixture and uses advised against	
	Concentrate developer for processing of black and white films	
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)	
	Muta 2;H341 SkinCorr.1B;H314 Aquatic Chronic 2;H411	
	Classification (according to Directive No 1999/45/ES – (DPD)	
	C;R34 Xn;R68 N;R51/53	
	<u>The most important adverse physicochemical, human health and environmental effects:</u>	
	May cause severe skin burns and eye damage. Suspected of causing genetic defects. Toxic to aquatic life with long lasting effects.	

2.2	Label elements (according to Regulation No 1272/2008/EC– CLP)	
Identification of product		FOMADON R09
hazard pictogram		
signal word		Danger
hazard statement(s) (H-, phrases)	H341 H314 H411	Suspected of causing genetic defects Causes severe skin burns and eye damage. Toxic to aquatic life with long lasting effects.
precautionary statement (P- phrases)	P102 P280 P301+P310 P305+P351+P338 P273 P501	Keep out of reach of children Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED: Immediately call a POISON CENTER/doctor. 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: Potassium hydroxide, p-aminophenol
		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
p-aminophenol	Not available	612-128-00-x	123-30-8	204-616-2	1-5	Muta.2;H341 AcuteTox.4;H302 AcuteTox.4;H332 Aquat.Acute 1;H400 Aquat. Chronic 1; H410 MutaCat3; R68 Xn;R20/22 N;R50/53
Potassium hydroxide	Not available	019-002-00-8	1310-58-3	215-181-3	1-5	SkinCorr.1A;H314 AcuteTox.4;H302 C;R35 Xn;R22
Zinc powder – zinc dust (pyrophoric)	Not available	030-001-00-1	7440-66-6	231-175-3	<0,5	Pyr.sol.1;H250 Water-react1; H260 Aquat.Acute1;H400 Aquat. Chronic1;H410 F; R15,R17 N;R50/53

Solution

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

SECTION 4	First aid measures
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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, lukewarm 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 (liquid solution) is not flammable. Extinguishing agents adapt burning nearby.
	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 and carbon monoxide.
5.3	Advice for firefighters: Breathing apparatus,workwear

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
	Let soak it to inert absorption products. Rinse the affected area thoroughly with water. Small leak at least strongly dilute with water.
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. 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 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) Potassium hydroxide PEL 1 mg/m ³ NPK-P 2 mg/m ³ Substance is not listed in Notice. No.432/2003 Coll., Laying down limit values of biological exposure tests: not available														
	<table border="0"> <tr> <td>DNEL : (4-aminophenol)</td> <td>Workers</td> <td>General</td> </tr> <tr> <td>Long-Term – derm., systemic. effect</td> <td>1 mg/kg bw/day</td> <td></td> </tr> <tr> <td>Long-Term – inhal., systemic. effect</td> <td>2.1 mg/m³</td> <td></td> </tr> </table>	DNEL : (4-aminophenol)	Workers	General	Long-Term – derm., systemic. effect	1 mg/kg bw/day		Long-Term – inhal., systemic. effect	2.1 mg/m ³						
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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. Alternatively, take off contaminated clothing.														
	Respiratory protection: During normal handling is not required.														

	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	Dark brown liquid
	Odour	Not characteric
	pH	11.8
	Melting point/freezing point	Not determined
	Initial boiling point and boiling range	100 °C
	Flash point	Not applicable
	Evaporation rate	N.a.
	Flammability	Incombustible
	Upper/lower flammability or explosive limits	Not explosive
	Vapour pressure	23 hPa
	Vapour density	Unknown
	Oxidising properties	No
	Relative density	1.36 g/cm ³
	Solubility – watter	Solution- miscible
	Partition coefficient: n-octanol/water	Unknown
	Auto-ignition temperature	Irrelevant
	Decomposition temperature	N.a.
	Viscosity;	Not determined
	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

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 severe skin burns	
Serious eye damage/eye irritation	Causes severe eye damage	
Respiratory or skin sensitisation	Based on available data, the criteria for this classification are not match up	
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	
LD ₅₀ oral, rat : 375 mg/kg (4- aminophenol)		
LD ₅₀ oral rat: 365 mg/kg (potassium hydroxide)		
<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): React with strong acids may causes caustic effect on mucous membranes		
Toxicity dermal. Caustic effect on skin		
Eye Contact: Causes serious eye damage		
Immediate, delayed and chronic effects of short and long term exposure: Possible risk of irreversible effects.		



SECTION 12	Ecological information
12.1	Toxicity
	<p>LC₅₀(fish)/96hours: 1.2 mg/l (4-aminophenol) EC₅₀(crustaceans)/48hours: 0.24 mg/l (4-aminophenol) EC₅₀(fish)/96hours: Gambusia affinis 80 mg/l (potassium hydroxide) EC₅₀(fish)/24hours: Poecilia reticulata 165 mg/l (potassium hydroxide) Mixture is toxic for fish</p>
12.2	Persistence and degradability
	The product has not been yet tested in practice that way. But toxicological information about its components is available. Organic substance 4-aminophenol is considered to be hard biologically degradable
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
	Toxic for fish and plankton in water bodies and aquatic organisms

SECTION 13	Disposal considerations								
13.1	Waste treatment methods								
	<table border="1"> <tr> <td>Code and type of waste</td> <td>09 01 01* – aqueous developer solutions 15 01 10 * - packaging containing residues of hazardous substances</td> </tr> <tr> <td>The recommended method of disposal of the substance/preparation:</td> <td>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 sewers.</td> </tr> <tr> <td>The recommended method of disposal of contaminated product packaging:</td> <td>Emptied containers (after thorough flushing) can be reused, or to defer to container, designated for separate collection (plastics).</td> </tr> <tr> <td>Waste legislation</td> <td>Directive No. 2008/98/ES</td> </tr> </table>	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 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 sewers.	The recommended method of disposal of contaminated product packaging:	Emptied containers (after thorough flushing) can be reused, or to defer to container, designated for separate collection (plastics).	Waste legislation	Directive No. 2008/98/ES
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SECTION 14	Transport information
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Land transport ADR/RID (cross- border):



UN number	1814
UN proper shipping name	POTASSIUM HYDROXIDE SOLUTION

Transport hazard class(es)	8
Packing group	III
Labels	8  
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Tunnel restriction: E
Remarks:	The product is packed in limited quantities according to chapter 3.4 ADR , it means in combination packaging with not more than 5 litres per inner packaging and not more than 30 kg per package Marking for packages containing limited quantities- according to chapter 3.4.7

Maritime transport IMDG:

UN number	1814
UN proper shipping name	POTASSIUM HYDROXIDE SOLUTION
IMDG class(es)	8
Packing group	III
EMS number	F-A, S-B
Segregation	Category A, „Separated from acids“
Marine pollutant	Yes
Labels	8  
Remarks:	The product is packed in limited quantities according to chapter 3.4 IMDG, it means in combination packaging with not more than 5 litres per inner packaging and not more 30 kg per package Marking for packages containing limited quantities according to chapter 3.4.5

Air transport ICAO-TI and IATA-DGR:

UN number	1814
UN proper shipping name	POTASSIUM HYDROXIDE SOLUTION
ICAO/IATA class(es)	8
Packing group	III
Labels	8  
Packing instructions	Passenger aircraft – Packing instruction 852, max. net quantity per package 5 L Cargo aircraft - Packing instruction 856, max. net quantity per package 60 L Packing instruction Y841 –for packaging in limited quantities
Remarks	The product is packed in limited quantities according to chapter 2.7 of Technical Instructions for the Safe Transport of Dangerous Goods by Air, it means in combination packaging with not more than 1 liter per inner packaging and not more 30 kg per package Marking for packages containing limited quantities according to chapter 2.7.0.2

Environmental hazards	Product contains environmentally hazardous substances: 4-aminophenol
Special precautions for user	Warning: Corrosive mixture 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, 56 th Edition
15.2	Chemical safety assessment
	The chemical safety assessment for the product was´n made.

SECTION 16	
Abbreviations, symbols	
Muta 2	Mutagenity (Category 2)
Skin Corr. 1A	Skin corrosion (Category 1A)
Acute Tox.4	Hazardous to the aquatic environment, acute (Category 4)
Skin Corr. 1B	Skin caustic (burns) (Cat. 1B)
Aquatic Acute 1	Hazardous to the aquatic environment, acute (Category1)
Aquatic Chronic1	Hazardous to the aquatic environment, chronic (Category 1)
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic (Category 2)
Pyr.Sol.1	Pyrophoric Solids, (Category 1)
Water-react.1	Substances and Mixtures which, in contact with water, emit flammable gases (Category 1)
Muta cat.3	Mutagenity (Category 3)
F	high inflammable
C	caustic
Xn	harmfull

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 high concerns
DNEL	Derivated No-Effect Level
PNEC	Prediction No-Effect Concentration

Materials used for the processing of safety data sheet	
Information provided by the producer Material Safety Data Sheets (MSDS) for chemical substances	
R, H-phrases :	
H250	Catches fire spontaneously if exposed to air.
H341	Suspected of causing genetic defects
H260	In contact with water releases flammable gases which may ignite spontaneously.
H302	Harmful if swallowed.
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H314	Causes severe skin burns and eye damage
H332	Harmful if inhaled.
R68	Possible risk of irreversible effects
R34	Causes burns.
R22	Harmful if swallowed
R15	Contact with water liberates extremely flammable gases.
R17	Spontaneously flammable in air.
R20/22	Harmful by inhalation and if swallowed.
R35	Causes severe burns.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
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 producer, importer or retailer.	

Revised safety data sheet:

Revision:

version 2.1 – changes in section 1.3 and 2.2– address of supplier, 14- changed information for maritime and air transport