

## Material Safety Data Sheet


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

Date issue : 05/28/2014

Version No: 1.0

<b>SECTION 1</b>	<b>Identification of the substance/mixture and of the company/undertaking</b>	
1.1	Product identifier	<b>LIQUID PHOTOGRAPHIC EMULSION</b>
	Other name or labeling of product:	BLACK MAGIC VC, BLACK MAGIC Grade 3
1.2	Relevant identified uses of the substance or mixture and uses advised against	
	The photographic for universal using, the emulsion can be spread on the most different bases	
1.3	Details of the supplier of the safety data sheet	
	Supplier : Downstream User (Producer Mixture)	Hans O. Mahn GmbH & Co. KG, MACO PHOTO PRODUCTS, Brookstieg 4 22145 Hamburg-Stapelfeld, Tel: +49 40 237 0080
	Address electronic mail and teleph. number	photo@mahn.net +49 40 237 008-88
1.4	Emergency telephone number (Czech)	Toxikologic institute (TIS) Na Bojišti 1, 128 21 Praha 2 Tel. 224919293, 224915402 (continuous telephone information service)

<b>SECTION 2</b>	<b>Hazards identification</b>	
2.1	<b>Classification (according to Regulation No 1272/2008 – CLP)</b>	
	Aquatic Acute1;H400 Aquatic Chronic1;H410	
	Classification (according to Directive No 1999/45/ES – (DPD)	
	N;R50/53	
	<u>The most important adverse physicochemical, human health and environmental effects:</u> Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment	

2.2	Label elements (according to Regulation No 1272/2008/EC– CLP)	
<i>Identification of product</i>	<b>LIQUID PHOTOGRAPHIC EMULSION</b>	
<i>hazard pictogram</i>		
<i>signal word</i>	Warning	

hazard statement(s) (H- phrases)	H410	Very toxic to aquatic life with long lasting effects.
precautionary statement (P- phrases)	P102 P273	Keep out of reach of children Avoid release to the environment.
		Hans O. Mahn GmbH & Co. KG, MACO PHOTO PRODUCTS, Brookstieg 4, 22145 Hamburg-Stapelfeld, Tel: +49 40 237 0080

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

SECTION 3		Composition/information on ingredients				
3.1		Substances				
Folder name	Registration number	Index number	CAS number	ES number	Content % in the solution	Classification
Silver chloride	Not available	Not available	7783-90-6	232-033-3	< 5	Met.Corr1;H290 Aquatic Acute1;H400 Aquatic Chronic1;H410 M=1000, M(chronic)=100 N;R50/53
Silver bromide	Not available	Not available	7785-23-1	232-076-8	< 5	Aquatic Acute1;H400 Aquatic Chronic1;H410 M=1000, M(chronic)=100 N;R50/53

Emulsion

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

SECTION 4	First aid measures
4.1	Description of first aid measures
	Consult a physician. Show this safety data sheet to doctor in attendance.
	After contact with skin: Wash off with soap and plenty water.
	Eye Contact: Flush eyes with water as a precaution.
	Exposure by inhalation: Remove patient to fresh air. If not breathing, give artificial respiration. Consult a physician.
	If swallowed: 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.

<b>SECTION 5</b>	<b>Firefighting measures</b>
5.1	Extinguishing media
	The product is not flammable. Use water spray, dry chemical or carbon dioxide. Extinguishing agents adapt burning nearby.
	Inappropriate extinguishing media: N.a.
5.2	Special hazards arising from the substance or mixture
	Hydrogen chloride gas, hydrogen bromide gas, silver/silver oxides
5.3	Advice for firefighters: Breathing apparatus, workwear

<b>SECTION 6</b>	<b>Accidental release measures</b>
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. For personal protection see section 8.
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. Keep in suitable, closed containers for disposal.
6.4	Reference to other sections
	See section 13

<b>SECTION 7</b>	<b>Handling and storage</b>
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. Light sensitive. Storage temperature 4-10 °C. 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
--	--

<b>SECTION 8</b>	<b>Exposure controls/personal protection</b>														
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) <i>Silver</i> PEL 0,1 mg/m <sup>3</sup> NPK-P 0,3mg/m <sup>3</sup>														
	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 : (silver chloride)</td> <td>Workers</td> <td>General</td> </tr> <tr> <td>Long-Term – inhal., systemic. effect</td> <td>0.13mg/m<sup>3</sup></td> <td>0.053 mg/m<sup>3</sup></td> </tr> <tr> <td>Long-Term – oral., systemic. effect</td> <td></td> <td>0.59mg/ kg bw/day</td> </tr> </table>	DNEL : (silver chloride)	Workers	General	Long-Term – inhal., systemic. effect	0.13mg/m <sup>3</sup>	0.053 mg/m <sup>3</sup>	Long-Term – oral., systemic. effect		0.59mg/ kg bw/day					
DNEL : (silver chloride)	Workers	General													
Long-Term – inhal., systemic. effect	0.13mg/m <sup>3</sup>	0.053 mg/m <sup>3</sup>													
Long-Term – oral., systemic. effect		0.59mg/ kg bw/day													
	<table border="0"> <tr> <td>PNEC : (silver chloride)</td> <td></td> </tr> <tr> <td>Freshwater</td> <td>0.04 µg/l</td> </tr> <tr> <td>Marine water</td> <td>0.86 µg/l</td> </tr> <tr> <td>Sediment(freshwater)</td> <td>438.13 mg/kg sediment dw</td> </tr> <tr> <td>Sediment(marine water)</td> <td>438.13 mg/kg sediment dw</td> </tr> <tr> <td>Soil</td> <td>0.794 mg/kg sediment dw</td> </tr> <tr> <td>Mikroorganisms in Sewasge Treatment Plant</td> <td>0.025 mg/l</td> </tr> </table>	PNEC : (silver chloride)		Freshwater	0.04 µg/l	Marine water	0.86 µg/l	Sediment(freshwater)	438.13 mg/kg sediment dw	Sediment(marine water)	438.13 mg/kg sediment dw	Soil	0.794 mg/kg sediment dw	Mikroorganisms in Sewasge Treatment Plant	0.025 mg/l
PNEC : (silver chloride)															
Freshwater	0.04 µg/l														
Marine water	0.86 µg/l														
Sediment(freshwater)	438.13 mg/kg sediment dw														
Sediment(marine water)	438.13 mg/kg sediment dw														
Soil	0.794 mg/kg sediment dw														
Mikroorganisms in Sewasge Treatment Plant	0.025 mg/l														
	<table border="0"> <tr> <td>DNEL : (silver bromide)</td> <td>Workers</td> <td>General</td> </tr> <tr> <td>Long-Term – inhal., systemic. effect</td> <td>0.17mg/m<sup>3</sup></td> <td>0.07 mg/m<sup>3</sup></td> </tr> <tr> <td>Long-Term – oral, systemic. effect</td> <td></td> <td>2.1 mg/ /kg bw/day</td> </tr> </table>	DNEL : (silver bromide)	Workers	General	Long-Term – inhal., systemic. effect	0.17mg/m <sup>3</sup>	0.07 mg/m <sup>3</sup>	Long-Term – oral, systemic. effect		2.1 mg/ /kg bw/day					
DNEL : (silver bromide)	Workers	General													
Long-Term – inhal., systemic. effect	0.17mg/m <sup>3</sup>	0.07 mg/m <sup>3</sup>													
Long-Term – oral, systemic. effect		2.1 mg/ /kg bw/day													
	<table border="0"> <tr> <td>PNEC : (silver bromide)</td> <td></td> </tr> <tr> <td>Freshwater</td> <td>0.04 µg/l</td> </tr> <tr> <td>Marine water</td> <td>0.86 µg/l</td> </tr> <tr> <td>Sediment(freshwater)</td> <td>438.13 mg/kg sediment dw</td> </tr> <tr> <td>Sediment(marine water)</td> <td>438.13 mg/kg sediment dw</td> </tr> <tr> <td>Soil</td> <td>0.794 mg/kg sediment dw</td> </tr> <tr> <td>Mikroorganisms in Sewasge Treatment Plant</td> <td>0.025mg/l</td> </tr> </table>	PNEC : (silver bromide)		Freshwater	0.04 µg/l	Marine water	0.86 µg/l	Sediment(freshwater)	438.13 mg/kg sediment dw	Sediment(marine water)	438.13 mg/kg sediment dw	Soil	0.794 mg/kg sediment dw	Mikroorganisms in Sewasge Treatment Plant	0.025mg/l
PNEC : (silver bromide)															
Freshwater	0.04 µg/l														
Marine water	0.86 µg/l														
Sediment(freshwater)	438.13 mg/kg sediment dw														
Sediment(marine water)	438.13 mg/kg sediment dw														
Soil	0.794 mg/kg sediment dw														
Mikroorganisms in Sewasge Treatment Plant	0.025mg/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.Handle in accordance with good industrial hygiene and safety practise. 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: During normal handling is not required.														
	Eye protection: Safety glasses														
	Skin protection: Workwear														
	Environmental exposure: Provide preventing spill into waterways, soil and drainage.														

<b>SECTION 9</b>	<b>Physical and chemical properties</b>
------------------	---

9.1	Information on basic physical and chemical properties	
	Appearance	Grey emulsion
	Odour	no
	pH	6,7-7,3
	Melting point/freezing point	Not available
	Initial boiling point and boiling range	Not available
	Flash point	Fireproof
	Evaporation rate	Not available
	Flammability	Incombustible
	Upper/lower flammability or explosive limits	Irrelevant
	Vapour pressure	Not available
	Vapour density	Not available
	Oxidising properties	Not available
	Relative density	Not available
	Solubility – watter	Not available
	Partition coefficient: n-octanol/water	Not available
	Auto-ignition temperature	Irrelevant
	Decomposition temperature	Not available
	Viscosity;	Not available.
	Explosive properties	No
9.2	Other information	
	Fat solubility	No
	Conductivity	Not available

<b>SECTION 10</b>	<b>Stability and reactivity</b>	
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	
	Not available	
10.4	Conditions to avoid	
	Light, intensive heating.	
10.5	Incompatible materials	
	Strong oxidation agents	

10.6	Hazardous Decomposition Products
	In the event of fire: see section 5

<b>SECTION 11</b>	<b>Toxicological informations</b>
-----------------------	-----------------------------------

11.1	Information on toxicological effects
Acute toxicity	Based on available data, the criteria for this classification are not match up
Skin corrosion/irritation	Based on available data, the criteria for this classification are not match up
Serious eye damage/eye irritation	Based on available data, the criteria for this classification are not match up
Respiratory or skin sensitisation	Based on available data, the criteria for this classification are not match up
Germ cell mutagenicity	Based on available data, the criteria for this classification are not match up
Carcinogenicity	Based on available data, the criteria for this classification are not match up
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 <sub>50</sub> /oral/mouse=>10000mg/kg bw ( silver chloride)	
LD <sub>50</sub> /oral/mouse=>10000mg/kg bw ( silver bromide)	
<u>Likely routes of exposure and symptoms related to the physical, chemical and toxicological characteristics:</u>	
Toxicity oral. (ingestion / swallowing): The product is not dangerous.	
Toxicity inhal. (inhalation): The product is not dangerous.	
Toxicity dermal. The product is not dangerous.	
Eye Contact: May cause moderate irritation	
Immediate, delayed and chronic effects of short and long term exposure: Not available	

<b>SECTION 12</b>	<b>Ecological information</b>
-----------------------	-------------------------------

12.1	Toxicity
	<i>Silver chloride</i> LC <sub>50</sub> (fish)/96hour: 1.2 µg Ag/l ( Pimephales promelas) EC <sub>50</sub> (daphnia)/48hour: 0.22 µg Ag/l <i>Silver bromide</i> LC <sub>50</sub> (fish)/96hour: 1.2 µg Ag/l ( Pimephales promelas)


	EC <sub>50</sub> (daphnia)/48hour: 0.22 µg Ag/l
12.2	Persistence and degradability
	Inorganic substances , irrelevant.
12.3	Bioaccumulative potential
	Not available
12.4	Mobility in soil
	Not available
12.5	Results of PBT and vPvB assessment
	Not available. Substance is not identified as a PBT or vPvB
12.6	Other adverse effects
	Very toxic to aquatic life with long lasting effects.

<b>SECTION</b> 13	<b>Disposal considerations</b>	
13.1	Waste treatment methods	
	Code and type of waste	20 01 17*- Photochemicals 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

<b>SECTION</b> 14	<b>Transport information</b>	
----------------------	------------------------------	--

Transport ADR/RID, IMDG, IATA :

14.1	UN number	3082
14.2	UN proper shipping name	ADR/RID, IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,N.O.S.(Silver chloride, Silver bromide,emulsion) IATA: Enviromentally hazardous substance, liquid, n.o.s.( Silver chloride, Silver bromide,emulsion)
14.3	Transport hazard class(es)	9
14.4	Packing group	III
	Classification code	M6

	Kemmler code	90
	Labels	
14.5	Environmental hazards	Yes, marine pollutant, see SECTION 12
14.6	Special precautions for user	EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods >5L for liquids or >5kg for solids
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Tunnel restriction: E

<b>SECTION 15</b>	<b>Regulatory information</b>
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) as amended by No. 8/2013 Coll.
15.2	Chemical safety assessment
	The chemical safety assessment for the product was'n made.

<b>SECTION 16</b>	
Abbreviations, symbols	
Mett.Corr.1	Corrosive to metals, Category 1
Aquatic Acute1	Hazardous to the aquatic environment – AcuteHazard, Category 1
Aquatic Chronic1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
N	Dangerous for the 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
bw	Body weight



dw	Dry weight
----	------------

<b>Materials used for the processing of safety data sheet</b>	
Information provided by the producer Material Safety Data Sheets (MSDS) for chemical substances	
R, H-phrases :	
H290	May be corrosive to metals.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
Guidance regarding the training of workers:	
<p>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.</p> <p>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, IMDG, IATA.</p> <p>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.</p>	