## **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

SECTION 1	Identification of the substance/mixture and of the company/undertaking				
1.1	Product identifier	LIQUID PHOTOGRAPHIC EMULSION			
	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 elektronic mail and teleph.	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)			

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

2.2 Labe	Label elements (according to Regulation No 1272/2008/EC- CLP)			
Identification of prod	LIQUID PHOTOGRAPHIC EMULSION			
hazard pictogram	<u>*</u>			
signal word	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						
		egistration mber	Index number	CAS number	ES number	Content % in the solution	Classification	
Silver chloride	No av	ot ailable	Not available	7783-90-6	232-033-3	< 5	Met.Corr1;H290 Aquatic Acute1;H400 Aquatic Chronic1;H410 M=1000, M(chronic)=100	
Silver bromide	No av	ot ailable	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. Ifnot 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.

SECTION 5	Firefighting measures
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/siver oxides
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. 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 cntainers for disposal.			
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. 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	112	Other	uses -	not a	available
			<b>u</b> 3 <b>c</b> 3 –	1101	avanabic

SECTION 8	Exposure controls/personal protection			
8.1	Control parameters			
	Government Regulation No 361/2007 Coll Cexposure limits in the air of workplaces and way Silver PEL 0,1 mg/m³ NPK-P 0,3mg/m³			
	Substance is not listed in Notice. No.432/2003 Coll., Laying down limit values of biological exposure tests: not available			
	DNEL: (silver chloride) Long-Term – inhal., systemic. effect Long-Term – oral., systemic. effect	Workers 0.13mg/m <sup>3</sup>	General 0.053 mg/m³ 0.59mg/ kg bw/day	
	PNEC: (silver chloride) Freshwater Marine water Sediment(freshwater) Sediment(marine water) Soil Mikroorganisms in Sewasge Treatment Plant	0.04 µg/l 0.86 µg/l 438.13 mg/kg 438.13 mg/kg 0.794 mg/kg se 0.025 mg/l	sediment dw	
	DNEL: (silver bromide) Long-Term – inhal., systemic. effect Long-Term – oral, systemic. effect	Workers 0.17mg/m <sup>3</sup>	General 0.07 mg/m³ 2.1 mg/ /kg bw/day	
	PNEC: (silver bromide) Freshwater Marine water Sediment(freshwater) Sediment(marine water) Soil Mikroorganisms in Sewasge Treatment Plant	0.04 µg/l 0.86 µg/l 438.13 mg/kg 438.13 mg/kg 0.794 mg/kg se 0.025mg/l	sediment dw	
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.			

SECTION	Physical and chemical properties
9	Physical and chemical properties

9.1	Information on basic physical and chemical properties	
	Appearance	Grey emulsion
	Odour	no
	рН	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

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	
	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	

SECTION Toxicological informations  11			
11.1 Information on toxicologic	1.1 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 Respiratory or skin sensitisation	Based on available data, the criteria for this classification are not match up 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 ma			
LD <sub>50</sub> /oral/mouse=>10000mg/kg bw (	silver chloride)		
LD <sub>50</sub> /oral/mouse=>10000mg/kg bw (	silver bromide)		
Likely routes of exposure and sympt	oms related to the physical, chemical and toxicological characteristics:		
Toxicity oral. (ingestion / swallowing	):		
The product is not dangerous.			
Toxicity inhal. (inhalation):	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			

SECTION	Ecological information	
12		
12.1	Toxicity	
	Silver chloride LC <sub>50</sub> (fish)/96hour: 1.2 μg Ag/l ( Pimephales promelas) EC <sub>50</sub> (daphnia)/48hour: 0.22 μg Ag/l Silver bromide 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.	

SECTION	Disposal considerations		
13			
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	

SECTION	N Transport information
14	

Transport ADR/RID, IMDG, IATA:

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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: Environmentally 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	Tunel restriction: E

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 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.

SECTION 16				
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	

Materials used for the processing of safety data sheet				
	led by the producter ata 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 regardi	ng 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, IMDG, IATA.

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.