SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Colorstift B.K.-02, 12 ml (hellbronze (C32))

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Special finishes

1.3 Details of the supplier of the safety data sheet

Company : hebro chemie- ZN der Rockwood Specialties Group GmbH
Rostocker Str. 40
41199 Mönchengladbach
Contact person : Zentrale hebro chemie
Telephone : +49 (0) 2166 6009-0
Telefax : +49 (0) 2166 6009-99

Contact person product safety Abteilung Produktsicherheit
Telephone : +49(0)2166 6009-311
E-mail address : msds.de@hebro-chemie.de

1.4 Emergency telephone number

: Giftinformationszentrum Erfurt:
+49 (0) 361 730 730

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3 H226: Flammable liquid and vapour.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.

Precautionary statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open

flames and other ignition sources. No smoking.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

Additional Labelling

The following percentage of the mixture consists of ingredient(s) with unknown acute oral toxicity: 100 %
The following percentage of the mixture consists of ingredient(s) with unknown acute dermal toxicity: 100 %
The following percentage of the mixture consists of ingredient(s) with unknown acute inhalation toxicity: 100 %
The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 82.8 %

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Mixture

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Substances with a workplace exposure limit :			
2-Methoxy-1-methylethyl acetate	108-65-6 203-603-9 01-2119475791-29		>= 2.5 - < 10
n-Butyl acetate	123-86-4 204-658-1 607-025-00-1 01-2119485493-29		>= 2.5 - < 10
Xylene	Not Assigned 01-2119488216-32		>= 2.5 - < 10
Ethylbenzene	100-41-4 202-849-4 601-023-00-4 01-2119489370-35		>= 1 - < 2.5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	:	When symptoms persist or in all cases of doubt seek medical advice.
If inhaled	:	Provide fresh air. Keep patient warm and at rest. If symptoms persist, call a physician.
In case of skin contact	:	Take off all contaminated clothing immediately. After contact with skin, wash immediately with plenty of soap and water.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical advice.
If swallowed	:	Call a physician immediately. Do NOT induce vomiting. Rinse mouth with water. Immediately give large quantities of water to drink. Provide fresh air.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Treat symptomatically. For specialist advice physicians should contact the Poisons Information Service.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry powder Water spray jet
Unsuitable extinguishing media	:	High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting	:	Hazardous decomposition products formed under fire conditions. Carbon dioxide (CO2) Carbon monoxide

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

Further information	:	Use water spray to cool unopened containers. Suppress (knock down) gases/vapours/mists with a water spray jet. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Ensure adequate ventilation. Do not breathe vapours, aerosols. Remove all sources of ignition.

6.2 Environmental precautions

Environmental precautions	:	Do not empty into drains. Inform the relevant authorities if it enters sewers, aquatic environment or soil.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

Refer to protective measures listed in sections 7 and 8., For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin and eyes. Do not breathe vapours or spray mist. When using do not eat, drink or smoke. For personal protection see section 8.
Advice on protection against fire and explosion	:	Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Follow the water regulations. Keep only in the original container in a cool, well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Further information on storage conditions	:	Keep container tightly closed. Keep only in the original container in a cool, well-ventilated place. Keep away from heat.

Keep away from sources of ignition - No smoking. Keep at temperatures between - 7°C and 40°C.

Advice on common storage : Incompatible with oxidizing agents.

7.3 Specific end use(s)

Specific use(s) : Lacquer

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
2-Methoxy-1-methylethyl acetate	108-65-6	TWA	50 ppm 274 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	100 ppm 548 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
n-Butyl acetate	123-86-4	TWA	150 ppm 724 mg/m3	GB EH40
		STEL	200 ppm 966 mg/m3	GB EH40
Xylene	Not Assigned	TWA	50 ppm 220 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	100 ppm 441 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA	50 ppm 220 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	100 ppm 441 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
Ethylbenzene	100-41-4	TWA	100 ppm 441 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned sub-			

	stances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	125 ppm 552 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Xylene	Not Assigned	methyl hippuric acid: 650 Millimoles per mole Creatinine (Urine)	After shift	GB EH40 BAT

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Hydrocarbons, C9, aromatics	Workers	Inhalation	Long-term systemic effects	150 mg/m3
	Workers	Skin contact	Long-term systemic effects	25 mg/kg bw/day
2-Methoxy-1-methylethyl acetate	Workers	Inhalation	Long-term systemic effects	275 mg/m3
	Workers	Skin contact	Long-term systemic effects	153.5 mg/kg bw/day
n-Butyl acetate	Workers	Inhalation	Long-term systemic effects	480 mg/m3
	Workers	Inhalation	Long-term local effects	480 mg/m3
Xylene	Workers	Inhalation	Long-term systemic effects	77 mg/m3
Ethylbenzene	Workers	Inhalation	Long-term systemic effects	77 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
2-Methoxy-1-methylethyl acetate	Fresh water	0.635 mg/l
	Marine water	0.0635 mg/l
	Intermittent use/release	6.35 mg/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	3.29 mg/kg
	Marine sediment	0.329 mg/kg
	Soil	0.29 mg/kg

8.2 Exposure controls

Engineering measures

Handle only in a place equipped with local exhaust (or other appropriate exhaust).

Personal protective equipment

Eye/face protection : Safety glasses with side-shields conforming to EN166

Hand protection
Material : Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.

Remarks	:	The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The exact break through time can be obtained from the protective glove producer and this has to be observed.
Skin and body protection	:	Long sleeved clothing
Respiratory protection	:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Recommended Filter type: A-P2 The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.
Protective measures	:	Follow the skin protection plan.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	According to product name
Odour	:	characteristic
Melting point/range	:	No data available
Boiling point/boiling range	:	137 °C
Upper explosion limit / Upper flammability limit	:	Upper flammability limit 7.5 %(V)
Lower explosion limit / Lower flammability limit	:	Lower flammability limit 0.7 %(V)
Flash point	:	30 °C
Auto-ignition temperature	:	315 °C
pH	:	No data available
Viscosity		
Viscosity, kinematic	:	26 mm²/s (40 °C)
Solubility(ies)		
Water solubility	:	immiscible to little miscible
Partition coefficient: n-octanol/water	:	not determined

Vapour pressure	:	5 hPa (20 °C)
Density	:	0.96 g/cm³ (20 °C)
Relative vapour density	:	not determined

9.2 Other information

Explosives	:	Vapours may form explosive mixture with air.
Flammability (liquids)	:	Combustible liquids
Self-ignition	:	not auto-flammable
Substances and mixtures, which in contact with water, emit flammable gases	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : Product is stable under appropriate usage.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products : Under fire conditions:
Carbon dioxide (CO2)
Carbon monoxide

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Components:

2-Methoxy-1-methylethyl acetate:

Acute oral toxicity : LD50 (Rat): > 8,532 mg/kg

Acute inhalation toxicity	:	LC50 (Rat): > 23.8 mg/l Exposure time: 6 h Test atmosphere: vapour
Acute dermal toxicity	:	LD50 (Rat): > 5,000 mg/kg

n-Butyl acetate:

Acute oral toxicity	:	LD50 (Rat): 13,100 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 21 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	LD50 (Rabbit): 14,100 mg/kg

Ethylbenzene:

Acute oral toxicity	:	LD50 (Rat): 3,500 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 17.6 mg/l Exposure time: 4 h
Acute dermal toxicity	:	LD50 (Rabbit): 15,500 mg/kg

Skin corrosion/irritation

Product:

Remarks	:	No skin irritation

Serious eye damage/eye irritation

Product:

Remarks	:	No eye irritation

Respiratory or skin sensitisation

Product:

Remarks	:	This information is not available.

Germ cell mutagenicity

Components:

2-Methoxy-1-methylethyl acetate:

Genotoxicity in vitro	:	Remarks: In vitro tests did not show mutagenic effects

Carcinogenicity

Product:

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

11.2 Information on other hazards

Further information

Product:

Remarks : According to many years of experience, there are no known harmful effects when handled properly.
Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.

SECTION 12: Ecological information

12.1 Toxicity

Components:

2-Methoxy-1-methylethyl acetate:

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l
Exposure time: 48 h
Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC20 (activated sludge): > 1,000 mg/l
Exposure time: 0.5 h
Method: OECD Test Guideline 209

n-Butyl acetate:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 62 mg/l
Exposure time: 96 h

LC50 (Lepomis macrochirus (Bluegill sunfish)): 100 mg/l
Exposure time: 96 h

LC50 (Pimephales promelas (fathead minnow)): 18 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 73 mg/l
Exposure time: 24 h

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 674.7 mg/l
Exposure time: 72 h

Toxicity to microorganisms : EC50 (Pseudomonas putida): 115 mg/l
Exposure time: 16 h

Ethylbenzene:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 12.1 mg/l Exposure time: 96 h LC50 (Carassius auratus (goldfish)): 94.44 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	(Daphnia magna (Water flea)): 2.1 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Scenedesmus capricornutum (fresh water algae)): 4.6 mg/l Exposure time: 72 h

12.2 Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available

12.3 Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: No data available

12.4 Mobility in soil

Product:

Mobility	:	Remarks: No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment	:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

Product:

Additional ecological information	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Dispose of in accordance with local regulations. Do not let product enter drains. Do not dispose of with domestic refuse.

Contaminated packaging	:	Dispose of in accordance with local regulations.
Waste Code	:	Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

SECTION 14: Transport information

14.1 UN number or ID number

ADR	:	UN 1263
RID	:	UN 1263
IMDG	:	UN 1263
IATA	:	UN 1263

14.2 UN proper shipping name

ADR	:	PAINT
RID	:	PAINT
IMDG	:	PAINT
IATA	:	Paint

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADR	:	3	
RID	:	3	
IMDG	:	3	
IATA	:	3	

14.4 Packing group

ADR

Packing group	:	III
Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3
Tunnel restriction code	:	(D/E)

RID

Packing group	:	III
Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3

IMDG

Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E
Remarks	:	"IMDG-Code segregation group not applicable".

IATA (Cargo)

Packing instruction (cargo	:	366

aircraft)
Packing instruction (LQ) : Y344
Packing group : III
Labels : Flammable Liquids

IATA_P (Passenger)
Packing instruction (passenger aircraft) : 355
Packing instruction (LQ) : Y344
Packing group : III
Labels : Flammable Liquids

14.5 Environmental hazards

ADR
Environmentally hazardous : yes

RID
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

UK REACH List of substances subject to authorisation (Annex XIV) : Not applicable

UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation : Not applicable

The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain) : Not applicable

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: Other information

Full text of other abbreviations

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
GB EH40 BAT : UK. Biological monitoring guidance values
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information : The information provided is based on our current knowledge and experience and apply to the product as delivered. Regarding the product properties, these are not guaranteed. The delivery of this safety datasheet does not free the recipient of the product from his own responsibility to follow the relevant rules and regulations concerning this product.
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Classification of the mixture:		**Classification procedure:**
Flam. Liq. 3	H226	Based on product data or assessment

GB / EN