上海纳诺微新材料科技有限公司

Shanghai NNW New Materials Technology Co., Ltd.

Safety Data Sheet

Highlighter ink-dye

Version：1.1

Creation Date：2022/09/05

Revision Date：2022/09/05

Color: green

Country of Destination：EU

***Safety Data Sheet (Conforms to Annex II of REACH (1907/2006) - Regulation 2020/878)**

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

1.1 Product identifier

Product Name	*Highlighter ink-dye (green)*
Synonyms	—
CAS NO.	—
EC NO.	—
Chemical Formula	—

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

Relevant identified uses	*To write*
Uses advised against	—

1.3 Details of the supplier of the Safety Data Sheet

Name of the company	*Shanghai NNW New Materials Technology Co., Ltd.*
Address of the company	*ROOM 402, Buildiing17, Lane 268, Lingxin Road, Changning District Shanghai, CHINA*
Post code	*200335*
Telephone number	*021-64476059*
Fax number	*021-64476096*
Email	*sales@nnwchina.com*

1.4 Emergency phone number

Emergency phone number	*+8613311812200*

SECTION 2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation(EC) No 1272/2008	*The product is not classified according to the CLP regulation.*

2.2 Label elements

Hazard pictogram(s)	*Not Applicable*
Signal word	*Not Applicable*
Hazard statements	*Not Applicable*

2.3 Precautionary statements

Prevention	Not Applicable
Response	Not Applicable
Storage	Not Applicable
Disposal	Not Applicable

2.4 Other hazard

Not Applicable

SECTION 3 Composition/information on ingredients

3.1 Mixtures

1.CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to regulation (EC)No 1272/2008 [CLP] and amendments	Nanoform Particle Characteristics	SCL/M-Factor /ATF
1.56-81-5 2.200-289-5 3.Not Available 4.Not Available	15.0	**Glycerol**	Not Classified	Not Applicable	Not Applicable
1.6358-69-6 2.228-783-6 3.Not Available 4.Not Available	0.5-1.0	**Solvent Green 7**	Not Classified	Not Applicable	Not Applicable
1.2650-18-2 2.220-168-0 3.Not Available 4.Not Available	0.2-0.5	**C.I.Acid Blue 9**	Not Classified	Not Applicable	Not Applicable
1.7732-18-5 2.228-783-6 3.Not Available 4.Not Available	83.5-84.3	**Water, distilled, conductivity or of similar purity**	Not Classified	Not Applicable	Not Applicable

SECTION 4 First aid measures

4.1 Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15minutes and consult a physician if feel uncomfortable.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Inhalation	Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Use extinguishing media suitable forsurrounding area.
Unsuitable extinguishing media	There is no restriction on the type ofextinguisher which may be used.

5.2 Special hazards arising from the substrate or mixture

No further relevant information available.

5.3 Advice for firefighters

1	As in any fire, wear self-contained breathing apparatus(MSHA/NIOSH approved or equivalent)and full protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

1	Ensure adequate ventilation.
2	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
3	Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

6.2 Environmental precautions

1	Do not allow to enter sewers/ surface or ground water.
2	Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

1	Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
2	Dispose contaminated material as waste according to item 13.

SECTION 7 Handling and storage

7.1 Precautions for handling

- **Protective measure**

1	Ensure good ventilation/exhaustion at the workplace.
2	Keep receptacles tightly sealed.
3	Keep away from heat and direct sunlight.
4	Avoid contact with skin and eyes.
5	For the general occupational hygienic measures refer to section 8.

- **Information about fire - and explosion protection**

Normal measures for preventive fire protection

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms	Store in a cool location.
Information about storage in one common storage facility	Store away from foodstuffs.
Further information about storage conditions	Store in cool, dry conditions in well sealed receptacles.

7.3 Specific end use(s)

See section 1.2

SECTION 8 Exposure controls/personal protection

8.1 Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
Glycerol	Inhalation 220 mg/m³ (Local, Chronic) Inhalation 132 mg/m³ (Local, Chronic) *	0.885mg/L (Water (Fresh)) 0.088 mg/L (Water - Intermittent release) 8.85 mg/L (Water (Marine)) 3.3 mg/kg sediment dw (Sediment (Fresh Water)) 0.33 mg/kg sediment dw (Sediment (Marine)) 1000 mg/L (STP) 0.141mg/kg soil dw (Soil)

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Solvent Green 7	Inhalation 16.4 mg/m³ (Local, Chronic) Dermal 0.03 mg/kg bw/day (Systemic, Chronic) Inhalation 2.9 mg/m³ (Local, Chronic)* Dermal 0.0357 mg/kg bw/day (Systemic, Chronic)*	0.1 mg/L (Water (Fresh)) 1 mg/L (Water - Intermittent release) 0.01 mg/L (Water (Marine)) 2.06 mg/kg sediment dw (Sediment (Fresh Water)) 0.206 mg/kg sediment dw (Sediment (Marine)) 0.353 mg/kg soil dw (Soil)
C.I.Acid Blue 9	Inhalation 88.3mg/m³(Systemic, Chronic) Dermal 17.67 mg/kg bw/day (Systemic, Chronic) Dermal 6.31 mg/kg bw/day (Systemic, Chronic)* Inhalation 19 mg/m³(Systemic, Chronic)* Oral 6.31mg/kg bw/day (Systemic, Chronic)*	0.1 mg/L (Water (Fresh)) 1 mg/L (Water - Intermittent release) 0.01 mg/L (Water (Marine)) 0.1 mg/L (Marine Water - Intermittent release) 0.363 mg/kg sediment dw (Sediment (Fresh Water)) 0.0363 mg/kg sediment dw (Sediment (Marine)) 1mg/kg soil dw (Soil) 10 mg/L (STP)

** Values for General Population*

8.1.1 Occupational Exposure Limits (OEL)

- **Ingredient data**

Ingredient	Source	TWA	STEL	Peak
Glycerol, mist	AGS (Germany)	200 mg/m³ [1]	400mg/m³ [1][2]	Not Available
	DFG(Germany)	200 mg/m³ [1]	400mg/m³ [1][2]	Not Available
	MAK(Germany)	200I mg/m³	Not Available	I(2)
	VLEP (France)	10 mg/m³	Not Available	Not Available
	WELs(UK)	10 mg/m³	Not Available	Not Available

Remarks: 1..Inhalable fraction 2. 15 minutes average value

- **Emergency Limits**

Ingredient	TEEL-1	TEEL-2	TEEL-3
Glycerol	45mg/m³	180mg/m³	1100mg/m³
C.I.Acid Blue 9	30mg/m³	330mg/m³	2000mg/m³

8.2 Engineering controls

General protective and hygienic measures	The usual precautionary measures are to be adhered to when handling chemicals.

8.3 Personal protection equipment

General requirement	
Eye protection	Tightly fitting safety goggles (approved by EN166(EU) or NIOSH(US).
Hand protection	Wear protective gloves(such as butyl rubber, passing the tests according to EN 374(EU),US F739 or AS/NZS 2161.1 standard.
Respiratory protection	No special requirements.
Skin and body protection	No special requirements.
Other protection	No special equipment needed when handling small quantities.

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Green	**Viscosity**	**Dynamic**	Not Available
Physical state	Liquid		**Kinematic:**	Not Available
Odour	Odourless	**Vapour density (Air = 1)**		Not Available
Odour threshold	Not Available	**Density/Relative density**		Not Available
pH (as supplied)	Not Available	**Decomposition temperature**		Not Available
Melting point/freezing point(°C)	Not Available	**Particle Size**		Not Available
Flash point(Closed cup,°C)	Not Available	**Vapour pressure (kPa)**		Not Available

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Flammability	Not Available	**Relative vapor density**	Not Available
Evaporation rate	Not Available	**Partition coefficient n-octanol/ water**	Not Available
Upper Explosive Limit (%)	Not Available	**Auto-ignition temperature(°C)**	Not Available
Lower Explosive Limit (%)	Not Available	**Explosive properties**	Product does not present anexplosion hazard
Self-igniting	Not Available	**Oxidising properties**	Not Available
Taste	Not Available	**Surface Tension (dyn/cm ormN/m)**	Not Available
Volatile Component (%vol)	Not Available	**Gas group**	Not Available
pH as a solution (1%)	Not Available	**VOC g/L**	Not Available

9.2 Other information

No further relevant information available

SECTION 10 Stability and reactivity

10.1 Stability and reactivity

Reactivity	No decomposition if used according to specifications.
Chemical stability	Stable under proper operation and storage conditions.
Possibility of hazardous reactions	No dangerous reactions known.
Conditions to avoid	No further relevant information available.
Incompatible materials	No further relevant information available.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11 Toxicological information

11.1 Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Not normally a hazard due to non-volatile nature of product.
Ingestion	The material has not been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

Highlighter ink-dye	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
Glycerol	**TOXICITY**	**IRRITATION**
	Oral (rat) LD50:> 11500 mg/kg Inhalation(rat) LC50: > 5.85mg/l 4h Dermal (guinea pig) LD50: 45 ml/kg	Skin (rabbit):non-irritating(Draize) Eye (rabbit):non-irritating (Draize)
Solvent Green 7	**TOXICITY**	**IRRITATION**
	Oral (rat) LD50:15000 mg/kg Dermal (guinea pig) LD50: 2000 mg/kg	Eye: no adverse effect observed (not irritating)(Draize) Skin: no adverse effect observed (not irritating)(Draize)
C.I.Acid Blue 9	**TOXICITY**	**IRRITATION**
	Oral (rat) LD50: >1900 mg/kg[1]	Eye: no adverse effect observed (not irritating)(Draize) Skin: no adverse effect observed (not irritating)(Draize)

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11.2 Carcinogenicity

Component	Cas No.	IARC	NTP
Glycerol	56-81-5	Not Listed	Not Listed
Solvent Green 7	6358-69-6	Not Listed	Not Listed
C.I.Acid Blue 9	2650-18-2	Not Listed	Not Listed
Water	7732-18-5	Not Listed	Not Listed

11.2.1 Endocrine Disruption Properties

Not Available

11.3 Primary irritant effect

Carcinogenicity	Based on available data, the classification criteria are not met.
Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/irritation	Based on available data, the classification criteria are not met.
Skin sensitization	Based on available data, the classification criteria are not met.
Respiratory sensitization	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
STOT-single exposure	Based on available data, the classification criteria are not met.
STOT-repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

SECTION 12 Ecological information

12.1 Toxicity

Highlighter ink-dye	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Glycerol	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	885mg/l	1
	EC50	24h	Crustacea	10000mg/l	2
	EC50	72h	Algae or other aquatic plants	2.9mg/l	4
Solvent Green 7	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC	48h	Crustacea	100 mg/l	2
	LC50	96h	Fish	100 mg/l	2
	EC50	48h	Crustacea	100-500 mg/l	2
	EC50	168h	Aquatic plants other than alga	100 mg/l	2
C.I.Acid Blue 9	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC	504h	Crustacea	>10mg/l	2
	LC50	96h	Fish	>100mg/l	2
	EC50	48h	Crustacea	>100mg/l	2
	EC50	504h	Aquatic plants other than alga	>200mg/l	2
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data				

12.2 Persistence and degradability

Component	Cas No.	Persistence (water/soil)	Persistence (air)
Glycerol	56-81-5	High	Low

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Solvent Green 7	*6358-69-6*	*Middling*	*Low*
C.I.Acid Blue 9	*2650-18-2*	*Low*	*Low*

12.3 Bioaccumulative potential

Component	*Cas No.*	*Bioaccumulative potential*	*Remarks*
Glycerol	*56-81-5*	*Low*	*Log Kow=-1.76*
Solvent Green 7	*6358-69-6*	*Low*	*Log Kow<=3*

12.4 Mobility in soil

Component	*Cas No.*	*Mobility in soil*	*Soil Organic Carbon-Water Partitioning Coefficient (Koc)*
Glycerol	*56-81-5*	*High*	*Koc=23.74*
Solvent Green 7	*6358-69-6*	*Middling*	*Koc=3.313 ± 0.007*

12.5 Results of PBT and vPvB assessment

PBT	*Not Available*
vPvB	*Not Available*

12.6 Endocrine Disruption Properties

Not Available

12.7 Other adverse effects

No further relevant information available.

SECTION 13 Disposal considerations

13.1 Waste treatment methods

Product / Packaging disposal	*Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.* *1. Do not allow wash water from cleaning or process equipment to enter drains.* *2. It may be necessary to collect all wash water for treatment before disposal.* *3. Recycle wherever possible* *4. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.*
Waste treatment options	*Not Available*
Sewage disposal options	*Not Available*

SECTION 14 Transport information

14.1 UN-Number

ADR/RID/ADN, IMDG, IATA	*Not Available*

14.2 UN proper shipping name

ADR/RID/ADN, IMDG	*Not Available*
IATA	*Not Available*

14.3 Transport hazard class(es)

ADR/RID/ADN, IMDG, IATA	*Not Available*
Class	*Not Available*
Label	*Not Available*

14.4 Packing group

ADR/RID/ADN, IMDG, IATA	*Not Available*

Continued...

14.5 Environmental hazards

Not Applicable

14.6 Special precautions for user

Warning	Not Available
Hazard identification number (Kemler code)	Not Available
EMS Number:	Not Available
Stowage Category	Not Available

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not Applicable

14.8 Transport/Additional information

UN "Model Regulation"	Not Available

SECTION 15 Regulatory information

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

Directive 2012/18/EU	
Named dangerous substances -ANNEX I	None of the ingredients is listed
Other regulations, limitations and prohibitive regulations	
SVHC CandidateList of REACH Regulation Annex XIV Authorisation(06/10/2022)	None of the ingredients is listed
REACH Regulation Annex XVII Restriction(11/09/2021)	None of the ingredients is listed
REACH Regulation Annex XIV Authorization List(04/11/2022)	None of the ingredients is listed.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

15.3 International chemical inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS
Glycerol	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Water	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
C.I.Acid Blue 9	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Solvent Green 7	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed

【EINECS】 European Inventory of Existing Commercial Chemical Substances

【TSCA】 United States Toxic Substances Control Act Inventory

【DSL】 Canadian Domestic Substances List

【IECSC】 China Inventory of Existing Chemical Substances

【NZIoC】 New Zealand Inventory of Chemicals

【PICCS】 Philippines Inventory of Chemicals and Chemical Substances

【KECI】 Existing and Evaluated Chemical Substances

【AICS】 Australia Inventory of Chemical Substances

SECTION 16 Other information

16.1 Information on revision

Creation Date	2022/09/05
Revision Date	2022/09/05
Reason for revision	——

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16.2 Abbreviations and acronyms

SCL: Specific Concentration limits

ATE: Acute Toxicity Estimates

Cas: Chemical Abstracts Service

PC－TWA: Permissible Concentration-Time Weighted Average

PC－STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

NOEC: No Observed Effect Concentration

BCF: BioConcentration Factors

ELINCS: European List of Notified Chemical Substances

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

16.3 Disclaimer

This Safety Data Sheet (SDS) was prepared according to REACH Regulation The data included was derived from international authoritative data base and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference.Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.