# 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: blue**

**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 (blue)* |
| ***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

➢ **Description：** Mixture of substances listed below with nonhazardous additions.

| 1.CAS No<br>2.EC No<br>3.Index No<br>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<br>2.200-289-5<br>3.Not Available<br>4.Not Available | 15.0 | **Glycerol** | Not Classified | Not Applicable | Not Applicable |
| 1.2650-18-2<br>2.220-168-0<br>3.Not Available<br>4.Not Available | 1.0-3.0 | **C.I.Acid Blue 9** | Not Classified | Not Applicable | Not Applicable |
| 1.7732-18-5<br>2.231-791-2<br>3.Not Available<br>4.Not Available | 82.0-84.0 | **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** | Seek medical attention if necessary. Show this Safety Data Sheet (SDS) to the physician present.. |
| **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


Continued...

| | |
|---|---|
| 1 | Wear fully protective suit and mouth respiratory protective device. |
| 2 | Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| 3 | Fight fire from a safe distance, with adequate cover. |

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


Continued...

| | | |
|---|---|---|
| ***C.I.Acid Blue 9*** | *Inhalation 88.3mg/m³(Systemic, Chronic)*<br>*Dermal 17.67 mg/kg bw/day (Systemic, Chronic)*<br>*Dermal 6.31 mg/kg bw/day (Systemic, Chronic)**<br>*Inhalation 19 mg/m³(Systemic, Chronic)**<br>*Oral 6.31mg/kg bw/day (Systemic, Chronic)** | *0.1 mg/L (Water (Fresh))*<br>*1 mg/L (Water - Intermittent release)*<br>*0.01 mg/L (Water (Marine))*<br>*0.1 mg/L (Marine Water - Intermittent release)*<br>*0.363 mg/kg sediment dw (Sediment (Fresh Water))*<br>*0.0363 mg/kg sediment dw (Sediment (Marine))*<br>*1mg/kg soil dw (Soil)*<br>*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*** | *Blue* | ***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* |
| ***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* |


Continued...

| | | | |
|---|---|---|---|
| **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<br>Inhalation(rat) LC50: > 5.85mg/l 4h<br>Dermal (guinea pig) LD50: 45 ml/kg | Skin (rabbit):non-irritating(Draize)<br>Eye (rabbit):non-irritating (Draize) |
| **C.I.Acid Blue 9** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50: >1900 mg/kg[1] | Eye: no adverse effect observed (not irritating)(Draize)<br>Skin: no adverse effect observed (not irritating)(Draize) |

### 11.2 Carcinogenicity

| Component | Cas No. | IARC | NTP |
|---|---|---|---|
| **Glycerol** | 56-81-5 | Not Listed | Not Listed |
| **C.I.Acid Blue 9** | 2650-18-2 | Not Listed | Not Listed |
| **Water** | 7732-18-5 | Not Listed | Not Listed |


Continued...

### 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 |
| **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 algae | >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 |
| **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 |

### 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 |

### 12.5 Results of PBT and vPvB assessment

| | |
|---|---|
| **PBT** | Not Available |
| **vPvB** | Not Available |

### 12.6 Endocrine Disruption Properties


Continued...

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.<br>1. Do not allow wash water from cleaning or process equipment to enter drains.<br>2. It may be necessary to collect all wash water for treatment before disposal.<br>3. Recycle wherever possible<br>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 |

### 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** |


Continued...

| | |
|---|---|
| **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 |

【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** | —— |

### 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



Continued...

***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.*

# 上海纳诺微新材料科技有限公司

# 材料安全数据表

# （Safety Data Sheet)

*Date:MAY.5.2022*

*Trade name:Highlighter ink-dye*

*Color:Dark Green*

*Country of Destination：EU*

*Safety data sheet according to REGULATION (EC) No 1907/2006,*

*Article 31.*

# Safety data sheet
according to 1907/2006/EC, Article 31

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

· **1.1 Product identifier**

· **Trade name: Highlighter ink-dye ( dark green)**
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
· **Application of the substance / the mixture** Writing

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
SHANGHAI NNW NEW MATERIALS TECHNOLOGY CO.,LTD.ROOM 402, BUILDING17,
LANE 268, LINXIN ROAD,CHANGNING DISTRICT SHANGHAI , CHINA
Post code: 200035
Tel: +86-13311812200
Fax: +86-21-64476096
Email: nnw609@126.com
· **1.4 Emergency telephone number:**
+86-21-64476059-609
8:30-17:00

## 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**
· **Labelling according to Regulation (EC) No 1272/2008** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:** Void

| · **Non-dangerous components:** | | |
|---|---|---|
| CAS: 56-81-5<br>EINECS: 200-289-5 | glycerol | 15,0% |
| CAS: 6358-69-6 | 1,3,6-Pyrenetrisulfonic acid, 8-hydroxy-, trisodium salt | 0,8% |
| CAS: 2650-18-2 | diammonio(ethyl)[4-[[4-[ethyl(3-sulphonatobenzyl)amino]phenyl](2-sulphonatophenyl)methylene]cyclohexa-2,5-dien-1-ylidene](3-sulphonatobenzyl) ammonium | 0,5% |
| CAS: 7732-18-5<br>EINECS: 231-791-2 | water, distilled, conductivity or of similar purity | 83,7% |

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

## SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** No special measures required.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:** Generally the product does not irritate the skin.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** If symptoms persist consult doctor.
· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 2)

# Safety data sheet
according to 1907/2006/EC, Article 31

**Trade name: Highlighter ink-dye (dark green)**

(Contd. of page 1)

· **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 agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
· **5.3 Advice for firefighters**
· **Protective equipment:** No special measures required.

## SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures:** Not required.
· **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

## SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** No special measures required.
· **Information about fire - and explosion protection:** No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** None.
· **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
· **Respiratory protection:** Not required.
· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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# Safety data sheet
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**Trade name: Highlighter ink-dye (dark green)**

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· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:** Goggles recommended during refilling

## SECTION 9: Physical and chemical properties

| | |
|---|---|
| · **9.1 Information on basic physical and chemical properties** | |
| · **General Information** | |
| · **Appearance:** | |
| **Form:** | Fluid |
| **Colour:** | Dark Green |
| · **Odour:** | Odourless |
| · **Odour threshold:** | Not determined. |
| · **pH-value:** | Not determined. |
| · **Change in condition:** | |
| **Melting point/Melting range:** | Undetermined. |
| **Boiling point/Boiling range:** | Undetermined. |
| · **Flash point:** | Not determined. |
| · **Flammability (solid, gaseous):** | Not applicable. |
| · **Ignition temperature:** | |
| **Decomposition temperature:** | Not determined. |
| · **Self-igniting:** | Not determined. |
| · **Danger of explosion:** | Product does not present an explosion hazard. |
| · **Explosion limits:** | |
| **Lower:** | Not determined. |
| **Upper:** | Not determined. |
| · **Vapour pressure:** | Not determined. |
| · **Density:** | Not determined. |
| · **Relative density** | Not determined. |
| · **Vapour density** | Not determined. |
| · **Evaporation rate** | Not determined. |
| · **Solubility in / Miscibility with water:** | Miscible |
| · **Partition coefficient (n-octanol/water):** | Not determined. |
| · **Viscosity:** | |
| **Dynamic:** | Not determined. |
| **Kinematic:** | Not determined. |
| · **9.2 Other information** | No further relevant information available. |

## SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

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**Trade name: Highlighter ink-dye (dark green)**

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## SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity**
· **Primary irritant effect:**
· **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.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** 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**
· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

## SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation** Smaller quantities can be disposed of with household waste.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## SECTION 14: Transport information

| | |
|---|---|
| · **14.1 UN-Number** | |
| · **ADR, ADN, IMDG, IATA** | Void |
| · **14.2 UN proper shipping name** | |
| · **ADR, ADN, IMDG, IATA** | Void |
| · **14.3 Transport hazard class(es)** | |
| · **ADR, ADN, IMDG, IATA** | |
| · **Class** | Void |
| · **14.4 Packing group** | |
| · **ADR, IMDG, IATA** | Void |
| · **14.5 Environmental hazards:** | |
| · **Marine pollutant:** | No |

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(Contd. of page 4)

| | |
|---|---|
| · **14.6 Special precautions for user** | Not applicable. |
| · **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** | Not applicable. |
| · **UN "Model Regulation":** | - |

## 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.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
This safety data sheet (6615)177-0203-3 is prepared upon applicant SHANGHAI NNW NEW MATERIALS TECHNOLOGY CO.,LTD.'s request. However, no SDS of ingredients was provided by the applicant. And no further testing data provided. Therefore,this document is compiled in accordance with what we obtained.

· **Abbreviations and acronyms:**
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
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)

# 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<br>2.EC No<br>3.Index No<br>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<br>2.200-289-5<br>3.Not Available<br>4.Not Available | 15.0 | **Glycerol** | Not Classified | Not Applicable | Not Applicable |
| 1.6358-69-6<br>2.228-783-6<br>3.Not Available<br>4.Not Available | 0.5-1.0 | **Solvent Green 7** | Not Classified | Not Applicable | Not Applicable |
| 1.2650-18-2<br>2.220-168-0<br>3.Not Available<br>4.Not Available | 0.2-0.5 | **C.I.Acid Blue 9** | Not Classified | Not Applicable | Not Applicable |
| 1.7732-18-5<br>2.228-783-6<br>3.Not Available<br>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<br>Exposure Pattern Worker | PNECs<br>Compartment |
|---|---|---|
| **Glycerol** | Inhalation 220 mg/m³ (Local, Chronic)<br>Inhalation 132 mg/m³ (Local, Chronic) * | 0.885mg/L (Water (Fresh))<br>0.088 mg/L (Water - Intermittent release)<br>8.85 mg/L (Water (Marine))<br>3.3 mg/kg sediment dw (Sediment (Fresh Water))<br>0.33 mg/kg sediment dw (Sediment (Marine))<br>1000 mg/L (STP)<br>0.141mg/kg soil dw (Soil) |


Continued...

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


Continued...

| | | | |
|---|---|---|---|
| **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<br>Inhalation(rat) LC50: > 5.85mg/l 4h<br>Dermal (guinea pig) LD50: 45 ml/kg | Skin (rabbit):non-irritating(Draize)<br>Eye (rabbit):non-irritating (Draize) |
| **Solvent Green 7** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50:15000 mg/kg<br>Dermal (guinea pig) LD50: 2000 mg/kg | Eye: no adverse effect observed (not irritating)(Draize)<br>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)<br>Skin: no adverse effect observed (not irritating)(Draize) |


Continued...

### 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 |


Continued...

| | | | |
|---|---|---|---|
| **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.<br>1. Do not allow wash water from cleaning or process equipment to enter drains.<br>2. It may be necessary to collect all wash water for treatment before disposal.<br>3. Recycle wherever possible<br>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** | —— |



Continued...

## 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.

# 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

**Version：1.1**

**Creation Date：2022/09/05**

**Revision Date：2022/09/05**

**Color: orange**

**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(orange)* |
| ***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

➢ **Description：** Mixture of substances listed below with nonhazardous additions.

| 1.CAS No<br>2.EC No<br>3.Index No<br>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<br>2.200-289-5<br>3.Not Available<br>4.Not Available | 15.0 | **Glycerol** | Not Classified | Not Applicable | Not Applicable |
| 1.6358-69-6<br>2.228-783-6<br>3.Not Available<br>4.Not Available | 0.5-2.0 | **Solvent Green 7** | Not Classified | Not Applicable | Not Applicable |
| 1.2611-82-7<br>2.220-036-2<br>3.Not Available<br>4.Not Available | 0.5-1.5 | **Acid Red 18** | Not Classified | Not Applicable | Not Applicable |
| 1.35773-43-4<br>2.252-722-2<br>3.Not Available<br>4.Not Available | 1.5-3.0 | **3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone** | Not Classified | Not Applicable | Not Applicable |
| 1.7732-18-5<br>2.231-791-2<br>3.Not Available<br>4.Not Available | 78.5-82.5 | **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** | Seek medical attention if necessary. Show this Safety Data Sheet (SDS) to the physician present. |
| **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 | Wear fully protective suit and mouth respiratory protective device. |
| 2 | Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| 3 | Fight fire from a safe distance, with adequate cover. |

## 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<br>Exposure Pattern Worker | PNECs<br>Compartment |
|---|---|---|

| | | |
|---|---|---|
| **Glycerol** | Inhalation 220 mg/m³ (Local, Chronic)<br>Inhalation 132 mg/m³ (Local, Chronic) * | 0.885mg/L (Water (Fresh))<br>0.088 mg/L (Water - Intermittent release)<br>8.85 mg/L (Water (Marine))<br>3.3 mg/kg sediment dw (Sediment (Fresh Water))<br>0.33 mg/kg sediment dw (Sediment (Marine))<br>1000 mg/L (STP)<br>0.141mg/kg soil dw (Soil) |
| **Solvent Green 7** | Inhalation 16.4 mg/m³ (Local, Chronic)<br>Dermal 0.03 mg/kg bw/day (Systemic, Chronic)<br>Inhalation 2.9 mg/m³ (Local, Chronic)*<br>Dermal 0.0357 mg/kg bw/day (Systemic, Chronic)* | 0.1 mg/L (Water (Fresh))<br>1 mg/L (Water - Intermittent release)<br>0.01 mg/L (Water (Marine))<br>2.06 mg/kg sediment dw (Sediment (Fresh Water))<br>0.206 mg/kg sediment dw (Sediment (Marine))<br>0.353 mg/kg soil dw (Soil) |
| **Acid Red 18** | Inhalation 24.7 mg/m³ (Systemic, Chronic)<br>Dermal 7 mg/kg bw/day (Systemic, Chronic)<br>Inhalation 3.7 mg/m³ (Systemic, Chronic)*<br>Dermal 2.5 mg/kg bw/day (Systemic, Chronic)*<br>Oral 2.5 mg/kg bw/day (Systemic, Chronic)* | 0.1 mg/L (Water (Fresh))<br>1 mg/L (Water - Intermittent release)<br>0.01 mg/L (Water (Marine))<br>10 mg/L (STP)<br>0.392 mg/kg sediment dw (Sediment (Fresh Water))<br>0.0392 mg/kg sediment dw (Sediment (Marine))<br>0.0197 mg/kg soil dw (Soil) |

** 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 |

## 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** | Orange | **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 |


Continued...

| | | | |
|---|---|---|---|
| **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 |
| **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** | **TOXICITY** | **IRRITATION** |
| | Not Available | Not Available |
| **Glycerol** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50:> 11500 mg/kg<br>Inhalation(rat) LC50: > 5.85mg/l 4h<br>Dermal (guinea pig) LD50: 45 ml/kg | Skin (rabbit):non-irritating(Draize)<br>Eye (rabbit):non-irritating (Draize) |
| **Solvent Green 7** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50:15000 mg/kg<br>Dermal (guinea pig) LD50: 2000 mg/kg | Eye: no adverse effect observed (not irritating)(Draize)<br>Skin: no adverse effect observed (not irritating)(Draize) |


Continued...

| | | |
|---|---|---|
| **Acid Red 18** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50:>8000 mg/kg | Eye: no adverse effect observed (not irritating)(Draize)<br>Skin: no adverse effect observed (not irritating)(Draize) |
| **3-(5-chlorobenzoxazol-2-yl)-4-7-(diethylamino)-2-5-Benzopyrone** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50:>5000 mg/kg | No data available |

### 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 |
| **Acid Red 18** | 2611-82-7 | Not Listed | Not Listed |
| **3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone** | 35773-43-4 | 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** | **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 | Algae or other aquatic plants | 100 mg/l | 2 |
| **Acid Red 18** | **Endpoint** | **Test Duration (hr)** | **Species** | **Value** | **Source** |
| | NOEC | 168h | Aquatic plants other than algae | 100 mg/l | 2 |
| | EC50 | 48h | Crustacea | 100 mg/l | 2 |
| | EC0 | 48h | Crustacea | 100 mg/l | 2 |


Continued...

| | | | | | |
|---|---|---|---|---|---|
| | LC50 | 96h | Fish | 1000 mg/l | 2 |
| | BCF | 672h | Fish | <=0.55 l/kg | 7 |
| **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 |
| Solvent Green 7 | 6358-69-6 | Middling | Low |
| Acid Red 18 | 2611-82-7 | 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 |
| Acid Red 18 | 2611-82-7 | Low | BCF<=0.55 |

### 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 |
| Acid Red 18 | 2611-82-7 | High | Koc=3.16 |

### 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.<br>1. Do not allow wash water from cleaning or process equipment to enter drains.<br>2. It may be necessary to collect all wash water for treatment before disposal.<br>3. Recycle wherever possible<br>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


Continued...

| | |
|---|---|
| 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 |

### 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 |
| Solvent Green 7 | Listed | Listed | Listed | Listed | Listed | Listed | Listed | Listed |
| Acid Red 18 | Listed | Listed | Listed | Listed | Listed | Listed | Listed | Listed |
| 3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone | 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



Continued...

【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** | —— |

### 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.

# 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

**Version：1.1**

**Creation Date：2022/09/05**

**Revision Date：2022/09/05**

**Color: pink**

**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 (pink)* |
| ***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

None of the ingredients (≥0.1%) is identified as having endocrine disrupting properties according to Regulation (EU) 2017/2100.

## SECTION 3 Composition/information on ingredients

### 3.1 Mixtures

- **Description**：Mixture of substances listed.

| 1.CAS No<br>2.EC No<br>3.Index No<br>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<br>2.200-289-5<br>3.Not Available<br>4.Not Available | 15.0 | **Glycerol** | Not Classified | Not Applicable | Not Applicable |
| 1.2650-18-2<br>2.220-168-0<br>3.Not Available<br>4.Not Available | 0.5-1.5 | **C.I.Acid Blue 9** | Not Classified | Not Applicable | Not Applicable |
| 1.2611-82-7<br>2.220-036-2<br>3.Not Available<br>4.Not Available | 1.0-4.0 | **Acid Red 18** | Not Classified | Not Applicable | Not Applicable |
| 1.35773-43-4<br>2.252-722-2<br>3.Not Available<br>4.Not Available | 0.5-1.0 | **3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone** | Not Classified | Not Applicable | Not Applicable |
| 1.7732-18-5<br>2.231-791-2<br>3.Not Available<br>4.Not Available | 78.5-83.0 | **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** | Seek medical attention if necessary. Show this Safety Data Sheet (SDS) to the physician present. |
| **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. |

### 4.2 Most important symptoms and effects, both acute and delayed

No known symptoms or effects, acute or delayed.

### 4.3 Indication of any immediate medical attention and special treatment needed

No special immediate medical attention or special treatment needed.

## SECTION 5 Firefighting measures

### 5.1 Extinguishing media

| | |
|---|---|
| **Suitable extinguishing media** | Use extinguishing media suitable forsurrounding area. |
| **Unsuitable extinguishing media** | Water with full jet. |

### 5.2 Special hazards arising from the substrate or mixture

May form irritant vapor in air under fire.

### 5.3 Advice for firefighters


Continued...

| | |
|---|---|
| 1 | Wear fully protective suit and mouth respiratory protective device. |
| 2 | Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| 3 | Fight fire from a safe distance, with adequate cover. |

## 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. |

### 6.4 Reference to other sections

| | |
|---|---|
| 1 | See section 7 for information on safe handing. |
| 2 | See section 8 for information on personal protection equipment. |
| 3 | See section 13 for disposal in formation. |

## 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. |

- **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.Keep containers tightly closed . |
| **Information about storage in one common storage facility** | Store away from food stuff containers.Separated from strong oxidants and strong acids. |
| **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<br>Exposure Pattern Worker | PNECs<br>Compartment |
|---|---|---|

| | | |
|---|---|---|
| **Glycerol** | Inhalation 220 mg/m³ (Local, Chronic)<br>Inhalation 132 mg/m³ (Local, Chronic) * | 0.885mg/L (Water (Fresh))<br>0.088 mg/L (Water - Intermittent release)<br>8.85 mg/L (Water (Marine))<br>3.3 mg/kg sediment dw (Sediment (Fresh Water))<br>0.33 mg/kg sediment dw (Sediment (Marine))<br>1000 mg/L (STP)<br>0.141mg/kg soil dw (Soil) |
| **C.I.Acid Blue 9** | Inhalation 88.3mg/m³(Systemic, Chronic)<br>Dermal 17.67 mg/kg bw/day (Systemic, Chronic)<br>Dermal 6.31 mg/kg bw/day (Systemic, Chronic)*<br>Inhalation 19 mg/m³(Systemic, Chronic)*<br>Oral 6.31mg/kg bw/day (Systemic, Chronic)* | 0.1 mg/L (Water (Fresh))<br>1 mg/L (Water - Intermittent release)<br>0.01 mg/L (Water (Marine))<br>0.1 mg/L (Marine Water - Intermittent release)<br>0.363 mg/kg sediment dw (Sediment (Fresh Water))<br>0.0363 mg/kg sediment dw (Sediment (Marine))<br>1mg/kg soil dw (Soil)<br>10 mg/L (STP) |
| **Acid Red 18** | Inhalation 24.7 mg/m³ (Systemic, Chronic)<br>Dermal 7 mg/kg bw/day (Systemic, Chronic)<br>Inhalation 3.7 mg/m³ (Systemic, Chronic)*<br>Dermal 2.5 mg/kg bw/day (Systemic, Chronic)*<br>Oral 2.5 mg/kg bw/day (Systemic, Chronic)* | 0.1 mg/L (Water (Fresh))<br>1 mg/L (Water - Intermittent release)<br>0.01 mg/L (Water (Marine))<br>10 mg/L (STP)<br>0.392 mg/kg sediment dw (Sediment (Fresh Water))<br>0.0392 mg/kg sediment dw (Sediment (Marine))<br>0.0197 mg/kg soil dw (Soil) |

** 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 data available |
| | DFG(Germany) | 200 mg/m³[1] | 400mg/m³[1][2] | Not data available |
| | MAK(Germany) | 200I mg/m³ | Not data available | I(2) |
| | VLEP (France) | 10 mg/m³ | Not data available | Not data available |
| | WELs(UK) | 10 mg/m³ | Not data available | Not data 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** | Pink | **Viscosity** | **Dynamic** | Not Available |
| **Physical state** | Liquid | | **Kinematic:** | Not Available |
| **Odour** | Odourless | **Vapour density (Air = 1)** | | Not determined |


Continued...

| | | | |
|---|---|---|---|
| **Odour threshold** | Not determined | **Density/Relative density** | Not determined |
| **pH (as supplied)** | Not determined | **Decomposition temperature** | Not determined |
| **Melting point/freezing point(°C)** | Not determined | **Particle Size** | Not determined |
| **Flash point(Closed cup,°C)** | Not determined | **Vapour pressure (kPa)** | Not determined |
| **Flammability** | Not flammable liquid | **Relative vapor density** | Not determined |
| **Evaporation rate** | Not determined | **Partition coefficient n-octanol/ water** | Not determined |
| **Upper Explosive Limit (%)** | Not determined | **Auto-ignition temperature(°C)** | Not determined |
| **Lower Explosive Limit (%)** | Not determined | **Explosive properties** | Product does not present anexplosion hazard |
| **Self-igniting** | Not determined | **Oxidising properties** | Not determined |
| **Taste** | Not determined | **Surface Tension (dyn/cm ormN/m)** | Not determined |
| **Volatile Component (%vol)** | Not determined | **Gas group** | Not determined |
| **pH as a solution (1%)** | Not determined | **VOC g/L** | Not determined |

### 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** | **TOXICITY** | **IRRITATION** |
| | Not data available | Not data available |
| **Glycerol** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50:> 11500 mg/kg<br>Inhalation(rat) LC50: > 5.85mg/l 4h<br>Dermal (guinea pig) LD50: 45 ml/kg | Skin (rabbit):non-irritating(Draize)<br>Eye (rabbit):non-irritating (Draize) |
| **C.I.Acid Blue 9** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50: >1900 mg/kg | Eye: no adverse effect observed (not irritating)(Draize)<br>Skin: no adverse effect observed (not irritating)(Draize) |


Continued...

| | | |
|---|---|---|
| **Acid Red 18** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50:>8000 mg/kg | Eye: no adverse effect observed (not irritating)(Draize)<br>Skin: no adverse effect observed (not irritating)(Draize) |
| **3-(5-chlorobenzoxazol-2-yl)-4-7-(diethylamino)-2-5-Benzopyrone** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50:>5000 mg/kg | No data available |

### 11.2 Carcinogenicity

| Component | Cas No. | IARC | NTP |
|---|---|---|---|
| **Glycerol** | 56-81-5 | Not Listed | Not Listed |
| **C.I.Acid Blue 9** | 2650-18-2 | Not Listed | Not Listed |
| **Acid Red 18** | 2611-82-7 | Not Listed | Not Listed |
| **3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone** | 35773-43-4 | Not Listed | Not Listed |
| **Water** | 7732-18-5 | Not Listed | Not Listed |

#### 11.2.1 Endocrine Disruption Properties

None of the ingredients (≥0.1%) is considered to have endocrine-disrupting properties with respect to humans, as none of them meet the criteria set out in section A of Regulation (EU) No 2017/2100.

### 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** | **Endpoint** | **Test Duration (hr)** | **Species** | **Value** |
| | Not data available | Not data available | Not data available | Not data available |
| **Glycerol** | **Endpoint** | **Test Duration (hr)** | **Species** | **Value** |
| | LC50 | 96h | Fish | 54000 mg/l |
| | EC50 | 24h | Aquatic invertebrates | 10000 mg/l |
| | NOEC | 168h | Aquatic invertebrates | 800 mg/l |
| | EC50 | 192h | Aquatic algae and cyanobacteria | 2900 mg/l |
| **C.I.Acid Blue 9** | **Endpoint** | **Test Duration (hr)** | **Species** | **Value** |
| | NOEC | 504h | Aquatic invertebrates | >10mg/l |
| | LC50 | 96h | Fish | >100mg/l |
| | EC50 | 48h | Aquatic invertebrates | >100mg/l |
| | EC50 | 504h | Aquatic algae and cyanobacteria | >200mg/l |
| **Acid Red 18** | **Endpoint** | **Test Duration (hr)** | **Species** | **Value** |
| | LC50 | 96h | Fish | 1000 mg/l |


Continued...

| | | | | |
|---|---|---|---|---|
| | EC50 | 48h | Aquatic invertebrates | 100 mg/l |
| | NOEC | 168h | Aquatic plants other than algae | 100 mg/l |
| | BCF | 672h | Fish | <=0.55 l/kg(conc.474mg/l) |
| | BCF | 672h | Fish | <=5.6 l/kg(conc.47.4mg/l) |

### 12.2 Persistence and degradability

| Component | Cas No. | Persistence (water/soil) |
|---|---|---|
| Glycerol | 56-81-5 | Readily biodegradable in water |
| C.I.Acid Blue 9 | 2650-18-2 | Not ready biodegradable |
| Acid Red 18 | 2611-82-7 | Not readily biodegradable |

### 12.3 Bioaccumulative potential

| Component | Cas No. | Bioaccumulative potential | Remarks |
|---|---|---|---|
| Glycerol | 56-81-5 | Potential for a low bioaccumulation | Log Kow=-1.75 |
| Acid Red 18 | 2611-82-7 | Potential for a low bioaccumulation | Log Kow=-2.267 |
| C.I.Acid Blue 9 | 2650-18-2 | Potential for a low bioaccumulation | Log Kow=-3 |
| 3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone | 35773-43-4 | Not data available. | Log Kow=4.9 |

### 12.4 Mobility in soil

| Component | Cas No. | Soil Organic Carbon-Water Partitioning Coefficient (Koc) |
|---|---|---|
| Glycerol | 56-81-5 | Koc=1 |
| Acid Red 18 | 2611-82-7 | Koc=3.16 |
| C.I.Acid Blue 9 | 2650-18-2 | Not data available. |
| 3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone | 35773-43-4 | Not data available. |

### 12.5 Results of PBT and vPvB assessment

| | |
|---|---|
| PBT | Not Available |
| vPvB | Not Available |

### 12.6 Endocrine Disruption Properties

None of the ingredients (≥0.1%) is considered to have endocrine-disrupting properties with respect to non-target organisms, as none of them meet the criteria set out in section B of Regulation (EU) No 2017/2100.

### 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.<br>1. Do not allow wash water from cleaning or process equipment to enter drains.<br>2. It may be necessary to collect all wash water for treatment before disposal.<br>3. Recycle wherever possible<br>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 |


Continued...

## 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 |

### 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 | None of the ingredients is listed |
| REACH Regulation Annex XVII Restriction | None of the ingredients is listed |
| REACH Regulation Annex XIV Authorization List | None of the ingredients is listed. |

### 15.2 Chemical safety assessment

A Chemical Safe Assessment has not been carried out.

### 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 |
| Acid Red 18 | Listed | Listed | Listed | Listed | Listed | Listed | Listed | Listed |


Continued...

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone | 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** | —— |

### 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 Further information

The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, its amendment Regulation (EU) No 2020/878 and (EC) No 1272/2008.

**DISCLAIMER OF LIABILITY:**

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.

# 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: purple**

**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 (purple)* |
| ***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<br>2.EC No<br>3.Index No<br>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<br>2.200-289-5<br>3.Not Available<br>4.Not Available | 15.0 | **Glycerol** | Not Classified | Not Applicable | Not Applicable |
| 1.2650-18-2<br>2.220-168-0<br>3.Not Available<br>4.Not Available | 1.0-3.0 | **C.I.Acid Blue 9** | Not Classified | Not Applicable | Not Applicable |
| 1.3520-42-1<br>2.222-529-8<br>3.Not Available<br>4.Not Available | 0.5-1.5 | **C.I.Acid Red 52** | Not Classified | Not Applicable | Not Applicable |
| 1.7732-18-5<br>2.228-783-6<br>3.Not Available<br>4.Not Available | 80.5-83.5 | **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


Continued...

| | |
|---|---|
| 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)

In addition to use mentioned in the first parts, unforeseen other specific end uses.

## SECTION 8 Exposure controls/personal protection

### 8.1 Control parameters

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


Continued...

| | | |
|---|---|---|
| **C.I.Acid Blue 9** | *Inhalation 88.3mg/m³(Systemic, Chronic)*<br>*Dermal 17.67 mg/kg bw/day (Systemic, Chronic)*<br>*Dermal 6.31 mg/kg bw/day (Systemic, Chronic)**<br>*Inhalation 19 mg/m³(Systemic, Chronic)**<br>*Oral 6.31mg/kg bw/day (Systemic, Chronic)** | *0.1 mg/L (Water (Fresh))*<br>*1 mg/L (Water - Intermittent release)*<br>*0.01 mg/L (Water (Marine))*<br>*0.1 mg/L (Marine Water - Intermittent release)*<br>*0.363 mg/kg sediment dw (Sediment (Fresh Water))*<br>*0.0363 mg/kg sediment dw (Sediment (Marine))*<br>*1mg/kg soil dw (Soil)*<br>*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** | *Purple* | **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* |
| **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* |


Continued...

| | | | |
|---|---|---|---|
| **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<br>Inhalation(rat) LC50: > 5.85mg/l 4h<br>Dermal (guinea pig) LD50: 45 ml/kg | Skin (rabbit):non-irritating(Draize)<br>Eye (rabbit):non-irritating (Draize) |
| **C.I.Acid Blue 9** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50: >1900 mg/kg[1] | Eye: no adverse effect observed (not irritating)(Draize)<br>Skin: no adverse effect observed (not irritating)(Draize) |
| **C.I.Acid Red 52** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50: >5000 mg/kg[1] | Eye: no adverse effect observed (not irritating)(Draize)<br>Skin: no adverse effect observed (not irritating)(Draize) |


Continued...

### 11.2 Carcinogenicity

| Component | Cas No. | IARC | NTP |
|---|---|---|---|
| Glycerol | 56-81-5 | Not Listed | Not Listed |
| C.I.Acid Red 52 | 3520-42-1 | 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 |
| 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 algae | >200mg/l | 2 |
| C.I.Acid Red 52 | Endpoint | Test Duration (hr) | Species | Value | Source |
| | EC50 | 48h | Crustacea | 120mg/l | 2 |
| | BCF | 672h | Fish | <=0.57l/kg | 7 |
| | EC50 | 168h | Aquatic plants other than algae | 1000mg/l | 2 |
| | EC10 | 168h | Aquatic plants other than algae | 161.6-1000mg/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 |
| 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 |

### 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 |

### 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.<br>1. Do not allow wash water from cleaning or process equipment to enter drains.<br>2. It may be necessary to collect all wash water for treatment before disposal.<br>3. Recycle wherever possible<br>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 |

### 14.5 Environmental hazards

Not Applicable

### 14.6 Special precautions for user

| | |
|---|---|
| Warning | Not Available |


Continued...

| | |
|---|---|
| **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 Red 52 | Listed | Listed | Listed | Listed | Listed | Listed | Listed | Listed |
| C.I.Acid Blue 9 | 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

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【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** | —— |

### 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*

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***EINECS:****European Inventory of Existing Commercial Chemical Substances*

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***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.*

# 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

**Version：1.1**

**Creation Date：2022/10/13**

**Revision Date：2022/10/13**

**Color: red**

**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 (red)* |
| ***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

None of the ingredients (≥0.1%) is identified as having endocrine disrupting properties according to Regulation (EU) 2017/2100.

## SECTION 3 Composition/information on ingredients

### 3.1 Mixtures

- **Description：** Mixture of substances listed.

| 1.CAS No<br>2.EC No<br>3.Index No<br>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<br>2.200-289-5<br>3.Not Available<br>4.Not Available | 15.0 | **Glycerol** | Not Classified | Not Applicable | Not Applicable |
| 1.2611-82-7<br>2.220-036-2<br>3.Not Available<br>4.Not Available | 1.0-2.0 | **Acid Red 18** | Not Classified | Not Applicable | Not Applicable |
| 1.35773-43-4<br>2.252-722-2<br>3.Not Available<br>4.Not Available | 0.5-2.5 | **3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone** | Not Classified | Not Applicable | Not Applicable |
| 1.7732-18-5<br>2.231-791-2<br>3.Not Available<br>4.Not Available | 80.5-83.5 | **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** | Seek medical attention if necessary. Show this Safety Data Sheet (SDS) to the physician present. |
| **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. |

### 4.2 Most important symptoms and effects, both acute and delayed

No known symptoms or effects, acute or delayed.

### 4.3 Indication of any immediate medical attention and special treatment needed

No special immediate medical attention or special treatment needed.

## SECTION 5 Firefighting measures

### 5.1 Extinguishing media

| | |
|---|---|
| **Suitable extinguishing media** | Use extinguishing media suitable forsurrounding area. |
| **Unsuitable extinguishing media** | Water with full jet. |

### 5.2 Special hazards arising from the substrate or mixture

May form irritant vapor in air under fire.

### 5.3 Advice for firefighters

| | |
|---|---|
| **1** | Wear fully protective suit and mouth respiratory protective device. |
| **2** | Prevent fire extinguishing water from contaminating surface water or the ground water system. |


Continued...

| | |
|---|---|
| 3 | Fight fire from a safe distance, with adequate cover. |

## 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. |

### 6.4 Reference to other sections

| | |
|---|---|
| 1 | See section 7 for information on safe handing. |
| 2 | See section 8 for information on personal protection equipment. |
| 3 | See section 13 for disposal in formation. |

## 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. |

- **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.Keep containers tightly closed . |
| **Information about storage in one common storage facility** | Store away from food stuff containers.Separated from strong oxidants and strong acids. |
| **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<br>Exposure Pattern Worker | PNECs<br>Compartment |
|---|---|---|
| Glycerol | Inhalation 220 mg/m³ (Local, Chronic)<br>Inhalation 132 mg/m³ (Local, Chronic) * | 0.885mg/L (Water (Fresh))<br>0.088 mg/L (Water - Intermittent release)<br>8.85 mg/L (Water (Marine))<br>3.3 mg/kg sediment dw (Sediment (Fresh Water))<br>0.33 mg/kg sediment dw (Sediment (Marine))<br>1000 mg/L (STP)<br>0.141mg/kg soil dw (Soil) |


Continued...

| | | |
|---|---|---|
| ***Acid Red 18*** | *Inhalation 24.7 mg/m³ (Systemic, Chronic)*<br>*Dermal 7 mg/kg bw/day (Systemic, Chronic)*<br>*Inhalation 3.7 mg/m³ (Systemic, Chronic)**<br>*Dermal 2.5 mg/kg bw/day (Systemic, Chronic)**<br>*Oral 2.5 mg/kg bw/day (Systemic, Chronic)** | *0.1 mg/L (Water (Fresh))*<br>*1 mg/L (Water - Intermittent release)*<br>*0.01 mg/L (Water (Marine))*<br>*10 mg/L (STP)*<br>*0.392 mg/kg sediment dw (Sediment (Fresh Water))*<br>*0.0392 mg/kg sediment dw (Sediment (Marine))*<br>*0.0197 mg/kg soil dw (Soil)* |

** 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 data available* |
| | *DFG(Germany)* | *200 mg/m³[1]* | *400mg/m³[1][2]* | *Not data available* |
| | *MAK(Germany)* | *200I mg/m³* | *Not data available* | *I(2)* |
| | *VLEP (France)* | *10 mg/m³* | *Not data available* | *Not data available* |
| | *WELs(UK)* | *10 mg/m³* | *Not data available* | *Not data 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* |

## *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*** | *Red* | ***Viscosity*** | ***Dynamic*** | *Not Available* |
| ***Physical state*** | *Liquid* | | ***Kinematic:*** | *Not Available* |
| ***Odour*** | *Odourless* | ***Vapour density (Air = 1)*** | | *Not determined* |
| ***Odour threshold*** | *Not determined* | ***Density/Relative density*** | | *Not determined* |
| ***pH (as supplied)*** | *Not determined* | ***Decomposition temperature*** | | *Not determined* |
| ***Melting point/freezing point(°C)*** | *Not determined* | ***Particle Size*** | | *Not determined* |
| ***Flash point(Closed cup,°C)*** | *Not determined* | ***Vapour pressure (kPa)*** | | *Not determined* |
| ***Flammability*** | *Not flammable liquid* | ***Relative vapor density*** | | *Not determined* |
| ***Evaporation rate*** | *Not determined* | ***Partition coefficient n-octanol/ water*** | | *Not determined* |
| ***Upper Explosive Limit (%)*** | *Not determined* | ***Auto-ignition temperature(°C)*** | | *Not determined* |
| ***Lower Explosive Limit (%)*** | *Not determined* | ***Explosive properties*** | | *Product does not present anexplosion hazard* |
| ***Self-igniting*** | *Not determined* | ***Oxidising properties*** | | *Not determined* |


Continued...

| | | | |
|---|---|---|---|
| **Taste** | Not determined | **Surface Tension (dyn/cm ormN/m)** | Not determined |
| **Volatile Component (%vol)** | Not determined | **Gas group** | Not determined |
| **pH as a solution (1%)** | Not determined | **VOC g/L** | Not determined |

### 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** | **TOXICITY** | **IRRITATION** |
| | Not data available | Not data available |
| **Glycerol** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50:> 11500 mg/kg<br>Inhalation(rat) LC50: > 5.85mg/l 4h<br>Dermal (guinea pig) LD50: 45 ml/kg | Skin (rabbit):non-irritating(Draize)<br>Eye (rabbit):non-irritating (Draize) |
| **Acid Red 18** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50:>8000 mg/kg | Eye: no adverse effect observed (not irritating)(Draize)<br>Skin: no adverse effect observed (not irritating)(Draize) |
| **3-(5-chlorobenzoxazol-2-yl)-4-7-(diethylamino)-2-5-Benzopyrone** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50:>5000 mg/kg | No data available |

### 11.2 Carcinogenicity

| Component | Cas No. | IARC | NTP |
|---|---|---|---|
| **Glycerol** | 56-81-5 | Not Listed | Not Listed |
| **Acid Red 18** | 2611-82-7 | Not Listed | Not Listed |
| **3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone** | 35773-43-4 | Not Listed | Not Listed |
| **Water** | 7732-18-5 | Not Listed | Not Listed |


Continued...

### 11.2.1 Endocrine Disruption Properties

None of the ingredients (≥0.1%) is considered to have endocrine-disrupting properties with respect to humans, as none of them meet the criteria set out in section A of Regulation (EU) No 2017/2100.

### 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** | **Endpoint** | **Test Duration (hr)** | **Species** | **Value** |
| | Not data available | Not data available | Not data available | Not data available |
| **Glycerol** | **Endpoint** | **Test Duration (hr)** | **Species** | **Value** |
| | LC50 | 96h | Fish | 54000 mg/l |
| | EC50 | 24h | Aquatic invertebrates | 10000 mg/l |
| | NOEC | 168h | Aquatic invertebrates | 800 mg/l |
| | EC50 | 192h | Aquatic algae and cyanobacteria | 2900 mg/l |
| **Acid Red 18** | **Endpoint** | **Test Duration (hr)** | **Species** | **Value** |
| | LC50 | 96h | Fish | 1000 mg/l |
| | EC50 | 48h | Aquatic invertebrates | 100 mg/l |
| | NOEC | 168h | Aquatic plants other than algae | 100 mg/l |
| | BCF | 672h | Fish | <=0.55 l/kg(conc.474mg/l) |
| | BCF | 672h | Fish | <=5.6 l/kg(conc.47.4mg/l) |

### 12.2 Persistence and degradability

| Component | Cas No. | Persistence (water/soil) |
|---|---|---|
| **Glycerol** | 56-81-5 | Readily biodegradable in water |
| **Acid Red 18** | 2611-82-7 | Not readily biodegradable |

### 12.3 Bioaccumulative potential

| Component | Cas No. | Bioaccumulative potential | Remarks |
|---|---|---|---|
| **Glycerol** | 56-81-5 | Potential for a low bioaccumulation | Log Kow=-1.75 |
| **Acid Red 18** | 2611-82-7 | Potential for a low bioaccumulation | Log Kow=-2.267 |
| **3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone** | 35773-43-4 | Not data available. | Log Kow=4.9 |

### 12.4 Mobility in soil

| Component | Cas No. | Soil Organic Carbon-Water Partitioning Coefficient (Koc) |
|---|---|---|


Continued...

| | | |
|---|---|---|
| **Glycerol** | 56-81-5 | Koc=1 |
| **Acid Red 18** | 2611-82-7 | Koc=3.16 |
| **3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone** | 35773-43-4 | Not data available. |

### 12.5 Results of PBT and vPvB assessment

| | |
|---|---|
| **PBT** | Not Available |
| **vPvB** | Not Available |

### 12.6 Endocrine Disruption Properties

None of the ingredients (≥0.1%) is considered to have endocrine-disrupting properties with respect to non-target organisms, as none of them meet the criteria set out in section B of Regulation (EU) No 2017/2100.

### 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.<br>1. Do not allow wash water from cleaning or process equipment to enter drains.<br>2. It may be necessary to collect all wash water for treatment before disposal.<br>3. Recycle wherever possible<br>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 |

### 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 |


Continued...

| | |
|---|---|
| **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** | None of the ingredients is listed |
| **REACH Regulation Annex XVII Restriction** | None of the ingredients is listed |
| **REACH Regulation Annex XIV Authorization List** | None of the ingredients is listed. |

### 15.2 Chemical safety assessment

A Chemical Safe Assessment has not been carried out.

### 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 |
| Acid Red 18 | Listed | Listed | Listed | Listed | Listed | Listed | Listed | Listed |
| 3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone | 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** | 2022/10/13 |
| **Revision Date** | 2022/10/13 |
| **Reason for revision** | —— |

### 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



Continued...

***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 Further information*

*The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, its amendment Regulation (EU) No 2020/878 and (EC) No 1272/2008.*

***DISCLAIMER OF LIABILITY:***

*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.*

# 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: yellow**

**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 (yellow)* |
| ***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

➢ **Description：** Mixture of substances listed below with nonhazardous additions.

| 1.CAS No<br>2.EC No<br>3.Index No<br>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<br>2.200-289-5<br>3.Not Available<br>4.Not Available | 15.0 | **Glycerol** | Not Classified | Not Applicable | Not Applicable |
| 1.6358-69-6<br>2.228-783-6<br>3.Not Available<br>4.Not Available | 0.2-1.0 | **Solvent Green 7** | Not Classified | Not Applicable | Not Applicable |
| 1.7732-18-5<br>2.231-791-2<br>3.Not Available<br>4.Not Available | 84-84.8 | **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** | Seek medical attention if necessary. Show this Safety Data Sheet (SDS) to the physician present. |
| **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


Continued...

| | |
|---|---|
| 1 | Wear fully protective suit and mouth respiratory protective device. |
| 2 | Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| 3 | Fight fire from a safe distance, with adequate cover. |

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


Continued...

| | | |
|---|---|---|
| **Solvent Green 7** | Inhalation 16.4 mg/m³ (Local, Chronic)<br>Dermal 0.03 mg/kg bw/day (Systemic, Chronic)<br>Inhalation 2.9 mg/m³ (Local, Chronic)*<br>Dermal 0.0357 mg/kg bw/day (Systemic, Chronic)* | 0.1 mg/L (Water (Fresh))<br>1 mg/L (Water - Intermittent release)<br>0.01 mg/L (Water (Marine))<br>2.06 mg/kg sediment dw (Sediment (Fresh Water))<br>0.206 mg/kg sediment dw (Sediment (Marine))<br>0.353 mg/kg soil dw (Soil) |

** 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 |

## 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** | Yellow | **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 |
| **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 |


Continued...

| | | | |
|---|---|---|---|
| **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<br>Inhalation(rat) LC50: > 5.85mg/l 4h<br>Dermal (guinea pig) LD50: 45 ml/kg | Skin (rabbit):non-irritating(Draize)<br>Eye (rabbit):non-irritating (Draize) |
| **Solvent Green 7** | **TOXICITY** | **IRRITATION** |
| | Oral (rat) LD50:15000 mg/kg<br>Dermal (guinea pig) LD50: 2000 mg/kg | Eye: no adverse effect observed (not irritating)(Draize)<br>Skin: no adverse effect observed (not irritating)(Draize) |

### 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 |
| **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 algae | 100 mg/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 |
| **Solvent Green 7** | 6358-69-6 | Middling | 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


Continued...

### 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.<br>1. Do not allow wash water from cleaning or process equipment to enter drains.<br>2. It may be necessary to collect all wash water for treatment before disposal.<br>3. Recycle wherever possible<br>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 |

### 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 |


Continued...

| 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 |
| 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 | —— |

### 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



Continued...

***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.*