

# 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.	—
ECNO.	—
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, Building17, 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
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#### 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.
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##### 2.2 Label elements

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

##### 2.3 Precautionary statements

<b>Prevention</b>	Not Applicable
<b>Response</b>	Not Applicable
<b>Storage</b>	Not Applicable
<b>Disposal</b>	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 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to regulation (EC)No 1272/2008 [CLP] and amendments	Nanoform Particle Characteristics	SCL/M-Factor/ATF
1.56-81-5 2.200-289-5 3.Not Available 4.Not Available	15.0	Glycerol	Not Classified	Not Applicable	Not Applicable
1.6358-69-6 2.228-783-6 3.Not Available 4.Not Available	0.5-2.0	Solvent Green 7	Not Classified	Not Applicable	Not Applicable
1.2611-82-7 2.220-036-2 3.Not Available 4.Not Available	0.5-1.5	Acid Red 18	Not Classified	Not Applicable	Not Applicable
1.35773-43-4 2.252-722-2 3.Not Available 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 2.231-791-2 3.Not Available 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**

<b>General advice</b>	Seek medical attention if necessary. Show this Safety Data Sheet (SDS) to the physician present.
<b>Eye contact</b>	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.
<b>Skin contact</b>	Take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15minutes and consult a physician if feel uncomfortable.
<b>Ingestion</b>	Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
<b>Inhalation</b>	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.
<b>Protecting of first-aiders</b>	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**

<b>Suitable extinguishing media</b>	Use extinguishing media suitable for surrounding area.
<b>Unsuitable extinguishing media</b>	There is no restriction on the type of extinguisher 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**

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

**7.3 Specific end use(s)**

See section 1.2

**SECTION 8 Exposure controls/personal protection**

**8.1 Control parameters**

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
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<b>Glycerol</b>	Inhalation 220 mg/m <sup>3</sup> (Local, Chronic) Inhalation 132 mg/m <sup>3</sup> (Local, Chronic) *	0.885mg/L (Water (Fresh)) 0.088 mg/L (Water - Intermittent release) 8.85 mg/L (Water (Marine)) 3.3 mg/kg sediment dw (Sediment (Fresh Water)) 0.33 mg/kg sediment dw (Sediment (Marine)) 1000 mg/L (STP) 0.141mg/kg soil dw (Soil)
<b>Solvent Green 7</b>	Inhalation 16.4 mg/m <sup>3</sup> (Local, Chronic) Dermal 0.03 mg/kg bw/day (Systemic, Chronic) Inhalation 2.9 mg/m <sup>3</sup> (Local, Chronic)* Dermal 0.0357 mg/kg bw/day (Systemic, Chronic)*	0.1 mg/L (Water (Fresh)) 1 mg/L (Water - Intermittent release) 0.01 mg/L (Water (Marine)) 2.06 mg/kg sediment dw (Sediment (Fresh Water)) 0.206 mg/kg sediment dw (Sediment (Marine)) 0.353 mg/kg soil dw (Soil)
<b>Acid Red 18</b>	Inhalation 24.7 mg/m <sup>3</sup> (Systemic, Chronic) Dermal 7 mg/kg bw/day (Systemic, Chronic) Inhalation 3.7 mg/m <sup>3</sup> (Systemic, Chronic)* Dermal 2.5 mg/kg bw/day (Systemic, Chronic)* Oral 2.5 mg/kg bw/day (Systemic, Chronic)*	0.1 mg/L (Water (Fresh)) 1 mg/L (Water - Intermittent release) 0.01 mg/L (Water (Marine)) 10 mg/L (STP) 0.392 mg/kg sediment dw (Sediment (Fresh Water)) 0.0392 mg/kg sediment dw (Sediment (Marine)) 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
<b>Glycerol, mist</b>	AGS (Germany)	200 mg/m <sup>3</sup> <sup>11</sup>	400mg/m <sup>3</sup> <sup>11/21</sup>	Not Available
	DFG(Germany)	200 mg/m <sup>3</sup> <sup>11</sup>	400mg/m <sup>3</sup> <sup>11/21</sup>	Not Available
	MAK(Germany)	200l mg/m <sup>3</sup>	Not Available	I(2)
	VLEP (France)	10 mg/m <sup>3</sup>	Not Available	Not Available
	WELs(UK)	10 mg/m <sup>3</sup>	Not Available	Not Available

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



➤ **Emergency Limits**

Ingredient	TEEL-1	TEEL-2	TEEL-3
<b>Glycerol</b>	45mg/m <sup>3</sup>	180mg/m <sup>3</sup>	1100mg/m <sup>3</sup>

### 8.2 Engineering controls

<b>General protective and hygienic measures</b>	The usual precautionary measures are to be adhered to when handling chemicals.
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### 8.3 Personal protection equipment

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

## SECTION 9 Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	Orange	<b>Viscosity</b>	<b>Dynamic</b>	Not Available
<b>Physical state</b>	Liquid		<b>Kinematic:</b>	Not Available
<b>Odour</b>	Odourless	<b>Vapour density (Air = 1)</b>		Not Available
<b>Odour threshold</b>	Not Available	<b>Density/Relative density</b>		Not Available

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

## 9.2 Other information

No further relevant information available

## SECTION 10 Stability and reactivity

### 10.1 Stability and reactivity

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

## SECTION 11 Toxicological information

### 11.1 Information on toxicological effects

<b>Inhaled</b>	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.
<b>Ingestion</b>	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.
<b>Skin Contact</b>	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.
<b>Eye</b>	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).
<b>Chronic</b>	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.

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

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

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

**SECTION 12 Ecological information**

**12.1 Toxicity**

	Endpoint	Test Duration (hr)	Species	Value	Source
<b>Highlighter ink</b>	Not Available	Not Available	Not Available	Not Available	Not Available
<b>Glycerol</b>	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	885mg/l	1
	EC50	24h	Crustacea	10000mg/l	2
<b>Solvent Green 7</b>	EC50	72h	Algae or other aquatic plants	2.9mg/l	4
	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
<b>Acid Red 18</b>	EC50	168h	Algae or other aquatic plants	100 mg/l	2
	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC	168h	Aquatic plants other than algae	100 mg/l	2
<b>Acid Red 18</b>	EC50	48h	Crustacea	100 mg/l	2
	EC0	48h	Crustacea	100 mg/l	2

	LC50	96h	Fish	1000 mg/l	2
	BCF	672h	Fish	<=0.55 l/kg	7
<b>Legend:</b>	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**

<b>PBT</b>	Not Available
<b>vPvB</b>	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**

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

**SECTION 14 Transport information**

**14.1 UN-Number**

<b>ADR/RID/ADN, IMDG, IATA</b>	Not Available
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**14.2 UN proper shipping name**

<b>ADR/RID/ADN, IMDG</b>	Not Available
<b>IATA</b>	Not Available

**14.3 Transport hazard class(es)**

<b>ADR/RID/ADN, IMDG, IATA</b>	Not Available
<b>Class</b>	Not Available
<b>Label</b>	Not Available

**14.4 Packing group**

<b>ADR/RID/ADN, IMDG, IATA</b>	Not Available
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**14.5 Environmental hazards**

Not Applicable

**14.6 Special precautions for user**

<b>Warning</b>	Not Available
<b>Hazard identification number (Kemler code)</b>	Not Available
<b>EMS Number:</b>	Not Available
<b>Stowage Category</b>	Not Available

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

Not Applicable

**14.8 Transport/Additional information**

<b>UN "Model Regulation"</b>	Not Available
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**SECTION 15 Regulatory information**

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

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

<b>Component</b>	<b>EINECS</b>	<b>TSCA</b>	<b>DSL</b>	<b>IECSC</b>	<b>NZIoC</b>	<b>PICCS</b>	<b>KECI</b>	<b>AICS</b>
<b>Glycerol</b>	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
<b>Water</b>	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
<b>Solvent Green 7</b>	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
<b>Acid Red 18</b>	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
<b>3-(5-chlorobenzoxazol-2-yl)-7-(diethylamino)-2-benzopyrone</b>	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**

<b>Creation Date</b>	2022/09/05
<b>Revision Date</b>	2022/09/05
<b>Reason for revision</b>	—

### **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.