SAFETY DATA SHEET
SEBK-RT401

SECTION 1. Chemical product and company identification

Product name: SEBK-RT401
Recommended use of the chemical and restrictions on use: Black Photoresist for Micro-LED Production
Supplier: Taiwan Nanocrystals Inc.
Address: No.4, Aly. 3, Ln. 52, Sec. 1, Dongmen Rd., East Dist., Tainan City 701, Taiwan (R.O.C.)
Tel: +886-6-208-5209
E-mail address: twnc@twncqds.com

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Flammable liquids Category 3
Skin corrosion/irritation Category 2
Specific target organ toxicity — single exposure Category 2
Specific target organ toxicity — repeated exposure Category 2

2.2 Label elements
GHS-Pictogram:

Signal word: WARNING
Hazard statement(s):
H226 Flammable liquid and vapor
H317 May cause an allergic skin reaction
H373 May cause damage to organs through prolonged or repeated exposure
H315 Causes skin irritation
Precautionary statement(s):
P210 Keep away from heat/sparks/open flames/hot surfaces — No smoking
P233 Keep container tightly closed
P240 Ground/bond container and receiving equipment
P241 Use explosion-proof electrical/ventilating/light/.../equipment
P242 Use only non-sparking tools
P243 Take precautionary measures against static discharge
P260 Do not breathe dust/fume/gas/mist/vapor/spray
P264 Wash hands thoroughly after handling
SAFETY DATA SHEET
SEBK-RT401

P270 Do not eat, drink or smoke when using this product
P280 Wear protective gloves/protective clothing/eye protection/.../face protection

Response
P302+P352 IF ON SKIN: Wash with plenty of soap and water
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.
Rinse skin with water/shower
P309+P311 IF exposed or you feel unwell: Call a POISON CENTER or doctor/physician
P314 Get medical advice/attention if you feel unwell
P321 Specific treatment (see ... on this label).
P332+P313 IF skin irritation occurs: Get medical advice/attention
P362 Take off contaminated clothing and wash before reuse.
P370+P378 In case of fire: Use ... for extinction

Storage
P403+P235 Store in a well-ventilated place. Keep cool
P405 Store locked up.

Disposal
P501 Dispose of contents/container to ... in accordance with local/regional/national/international regulations (to be specified).

2.3 Other hazards
NFPA Rating : Health=0, Flammability=2, Instability=0
(0 = Insignificant / 1 = Slight / 2 = Moderate / 3 = High / 4 = Extreme)

SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Mixtures</th>
<th>CAS No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Black</td>
<td>1333-86-4</td>
<td>10 %</td>
</tr>
<tr>
<td>Photo initiator</td>
<td>119313-12-1</td>
<td>2 %</td>
</tr>
<tr>
<td></td>
<td>478556-66-0</td>
<td></td>
</tr>
<tr>
<td>Propylene glycol monomethyl ether acetate(PGMEA)</td>
<td>108-65-6</td>
<td>70 %</td>
</tr>
<tr>
<td>Acrylic Monomer</td>
<td>80-62-6</td>
<td>8 %</td>
</tr>
<tr>
<td>Acrylic Resin</td>
<td>Proprietary</td>
<td>10%</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1 Description of first aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.
SAFETY DATA SHEET
SEBK-RT401

a. Eye contact
Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.
b. Skin contact
Remove contaminated clothing and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.
c. Inhalation
Remove from exposure immediately. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention.
d. Ingestion
If vomiting occurs, rinse mouth and keep head lower than hips to help prevent aspiration. Get medical attention, if needed.
e. Most Important acute and delayed symptoms/effects
Swallowing may nauseate and cause pain in esophagus and stomach.
f. First aid and notes for physicians
Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2)

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Carbon dioxide, alcohol foam or dry chemical.

5.2 Special hazards arising from the substance or mixture
Flammable Liquid may release vapors that form flammable mixtures when temperatures are at or above the flash point. Toxic gases will form upon combustion.

5.3 Advice for firefighters
Firefighters should wear self-contained breathing apparatus and protective clothing.
Wear full protective clothing and self-contained breathing apparatus.

5.4 Further information
No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
### SAFETY DATA SHEET
**SEBK-RT401**

| Wear appropriate clothing. Wear respiratory protection. Eliminate all sources of ignition. Vapors can accumulate in low areas. |

| **6.2 Environmental precautions** |
| Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Avoid heat, flame and ignition source. |

| **6.3 Methods and materials for containment and cleaning up** |
| Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. |
| Large spills: Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry. |

### SECTION 7: Handling and storage

| **7.1 Precautions for safe handling** |
| Avoid heat, sunlight, ignition sources. Handle with care. Open only under well ventilated conditions. Loosen closure cautiously before opening. When using this substance, avoid breathing, ingestion and use respiratory protection when in dust or mist form. Wear chemical goggles resistant gloves and protective clothing to prevent contact. Wash thoroughly after handling. |

| **7.2 Conditions for safe storage, including any incompatibilities** |
| Store only in tightly closed, properly vented containers away from heat, sparks, open flame and strong oxidizing agents. Storage temp. under 15°C in dark or yellow light. |

| **7.3 Specific end use(s)** |
| Apart from the uses mentioned in section 1.2 no other specific uses are stipulated. |

### SECTION 8: Exposure controls/personal protection

| **8.1 Control parameters** |
| Components with workplace control parameters |

| **8.2 Exposure controls** |
| Appropriate engineering controls |
| Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. |

| **Personal protective equipment** |
| **Eye/face protection** |
| Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). |

| **Skin protection** |
| Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective |
SAFETY DATA SHEET
SEBK-RT401

gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>9.1 Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Appearance</td>
</tr>
<tr>
<td>b) Odour</td>
</tr>
<tr>
<td>c) Odour Threshold</td>
</tr>
<tr>
<td>d) pH</td>
</tr>
<tr>
<td>e) Melting point/freezing point</td>
</tr>
<tr>
<td>f) Initial boiling point and boiling range</td>
</tr>
<tr>
<td>g) Flash point</td>
</tr>
<tr>
<td>h) Vaporization rate</td>
</tr>
<tr>
<td>i) Flammability (solid, gas)</td>
</tr>
<tr>
<td>j) Upper/lower flammability or explosive limits</td>
</tr>
<tr>
<td>k) Vapour pressure</td>
</tr>
<tr>
<td>l) Vapour density</td>
</tr>
<tr>
<td>m) Relative density</td>
</tr>
<tr>
<td>n) Water solubility</td>
</tr>
<tr>
<td>o) Partition coefficient: n-octanol/ water</td>
</tr>
<tr>
<td>p) Auto-ignition temperature</td>
</tr>
<tr>
<td>q) Decomposition temperature</td>
</tr>
<tr>
<td>r) Viscosity</td>
</tr>
<tr>
<td>s) Explosive properties</td>
</tr>
<tr>
<td>t) Oxidizing properties</td>
</tr>
</tbody>
</table>
10.1 Reactivity
This material is stable under recommended storage and handling conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Strong oxidizing agents, strong acids, strong bases and strong reducing agents.

10.4 Conditions to avoid
Avoid heat, flames, sparks and other sources of ignition.

10.5 Incompatible materials
Acids, Oxidizing agents, Acid chlorides, Acid anhydrides

10.6 Hazardous decomposition products
Oxidization of carbon
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available
SAFETY DATA SHEET
SEBK-RT401

SECTION 12: Ecological information

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

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

12.6 Other adverse effects
Harmful to aquatic life.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number : 3082

14.2 UN proper shipping name:
ENVIRONMENTALLY HAZARDOUS SUBSTANCE; LIQUID; N.O.S.

14.3 Transport hazard class(es): 9

14.4 Packaging group: III

14.5 Environmental hazards: yes

SECTION 15: Regulatory information

15.1 Applicable regulations :
Recommended guidelines, rules and standards for chemical safety handling, storage, transportation, loading / unloading hazard, classification and labeling, need to refer the regulations below:

Rules of Label and Hazard Communication for Dangerous and Harmful Materials
### SECTION 16: Other information

16.1 References:
- The SDS of SIGMA-ALDRICH
- The database of SDS of Council of Labor Affairs, Executive Yuan, Taiwan

16.2 Prepared by
- Chih-Jung Chen Manager
- Taiwan Nanocrystals Inc.
- No.4, Aly. 3, Ln. 52, Sec. 1, Dongmen Rd., East Dist., Tainan City 701, Taiwan (R.O.C.)
- Tel. +886-6-208-5209
- Issued: 08, 23, 2021