Micronova MANUFACTURING INC.

**Date** : 15/11/2019
**Version** : 1

# SAFETY DATA SHEET

**PEN-01, PEN-01IR, PEN-02, PEN-02IR, PEN-03, PEN-03IR, PEN-11, PEN-11IR, PEN-12, PEN-12IR**

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

### 1.1 Product identifier

**Product name** : PEN-01, PEN-01IR, PEN-02, PEN-02IR, PEN-03, PEN-03IR, PEN-11, PEN-11IR, PEN-12, PEN-12IR

**REACH Registration number**

**Registration number** : Not available.

**Pre-registration number** : Not available.

**Only representative** : B-Lands Consulting
World Trade Center
5 Place Robert Schuman - BP 1516
38025 Grenoble, France
ECHA-b720ddeb-10a5-485d-a0f6-8aa9ce3291fc

**Product code** : Not available.

**Product description** : Ball point pen ink.

**Product type** : Liquid.

**Other means of identification** : Not available.

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

**Identified uses** : Ball point pen ink.

### 1.3 Details of the supplier of the safety data sheet

**Supplier's details** : Micronova Manufacturing Inc.
3431 West Lomita Boulevard
Torrance, CA 90505
Tel: (310) 784-6990
Toll Free: 888-816-4276
Fax: 310-784-6980
Web: www.micronova-mfg.com

**e-mail address of person responsible for this SDS** : info@micronova-mfg.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : +1-703-741-5970
24/7

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Signal word** : No signal word.

**Hazard statements** : No known significant effects or critical hazards.

**Precautionary statements**

**Prevention** : Not applicable.

**Response** : Not applicable.

**Storage** : Not applicable.

**Disposal** : Not applicable.

**Supplemental label elements** : Safety data sheet available on request.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Restricted to professional users.

**Special packaging requirements**

**Containers to be fitted with child-resistant fastenings** : Not applicable.

**Tactile warning of danger** : Not applicable.

### 2.3 Other hazards

**Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures** : Mixture

| Product/ingredient name | Identifiers | % | Regulation (EC) No. 1272/2008 [CLP] | Type |
|---|---|---|---|---|
| N-methyl-2-pyrrolidone | EC: 212-828-1<br>CAS: 872-50-4<br>Index: 606-021-00-7 | ≥25 - ≤50 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Repr. 1B, H360D (Unborn child)<br>STOT SE 3, H335 | [1] [2] |
| 2-Phenoxyethanol | EC: 204-589-7<br>CAS: 122-99-6<br>Index: 603-098-00-9 | ≥25 - ≤50 | Acute Tox. 4, H302<br>Eye Irrit. 2, H319 | [1] |
| [4-[p,p'-bis(Dimethylamino)benzhydrylidene] cyclohexa-2,5-dien-1-ylidene] dimethylammonium m-[[p-anilinophenyl]azo] benzenesulphonate | EC: 265-449-9<br>CAS: 65113-55-5 | ≥25 - ≤50 | Acute Tox. 4, H302 | [1] |

## SECTION 3: Composition/information on ingredients

| | | | | |
|---|---|---|---|---|
| | | | **See Section 16 for the full text of the H statements declared above.** | |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Eye contact** : Not applicable under normal conditions of use. In case of contact with eyes, rinse immediately with plenty of water. If irritation occurs, get medical attention.

**Inhalation** : Not applicable under normal conditions of use. If inhaled, remove to fresh air. Get medical attention if symptoms occur.

**Skin contact** : Not applicable under normal conditions of use. Rinse skin with water or shower. If irritation occurs, get medical attention.

**Ingestion** : Not applicable under normal conditions of use. Get medical attention if symptoms occur.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

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

**Potential acute health effects**

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

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

**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : In case of fire, use water spray (fog), foam, dry chemical or $CO_2$. If individual marker should catch fire, douse with or immerse in plain water.

**Unsuitable extinguishing media** : None known.

## SECTION 5: Firefighting measures

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

**Hazards from the substance or mixture** : Emits toxic fumes under fire conditions.

**Hazardous combustion products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : No special measures are required.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and material for containment and cleaning up

**Spill** : Broken packages or leaking markers: sweep into closable container to disposal. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

**6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

## SECTION 7: Handling and storage

### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink.

### 7.3 Specific end use(s)

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

### 8.1 Control parameters

#### Occupational exposure limits

| Product/ingredient name | Exposure limit values |
|---|---|
| N-methyl-2-pyrrolidone | **EH40/2005 WELs (United Kingdom (UK), 8/2018). Absorbed through skin.**<br>STEL: 80 mg/m³ 15 minutes.<br>STEL: 20 ppm 15 minutes.<br>TWA: 40 mg/m³ 8 hours.<br>TWA: 10 ppm 8 hours. |

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

| Product/ingredient name | Type | Exposure | Value | Population | Effects |
|---|---|---|---|---|---|
| N-methyl-2-pyrrolidone | DNEL | Long term Oral | 6.3 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 11.9 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 12.5 mg/m³ | General population | Systemic |
| | DNEL | Long term Dermal | 19.8 mg/kg bw/day | Workers | Systemic |
| | DNEL | Short term Oral | 26 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 40 mg/m³ | Workers | Systemic |
| | DNEL | Short term Inhalation | 80 mg/m³ | General population | Systemic |
| | DNEL | Short term Inhalation | 80 mg/m³ | Workers | Systemic |
| | DNEL | Short term Dermal | 125 mg/kg bw/day | General population | Systemic |
| | DNEL | Short term Dermal | 208 mg/kg bw/day | Workers | Systemic |
| 2-Phenoxyethanol | DNEL | Long term Inhalation | 2.41 mg/m³ | General population | Local |
| | DNEL | Long term Inhalation | 2.41 mg/m³ | General population | Systemic |
| | DNEL | Long term Inhalation | 8.07 mg/m³ | Workers | Local |
| | DNEL | Long term Inhalation | 8.07 mg/m³ | Workers | Systemic |
| | DNEL | Short term Oral | 17.43 mg/kg | General population | Systemic |

## SECTION 8: Exposure controls/personal protection

| | | | | | |
|---|---|---|---|---|---|
| | DNEL | Long term Oral | bw/day<br>17.43 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 20.83 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 34.72 mg/kg bw/day | Workers | Systemic |
| [4-[p,p'-bis(Dimethylamino)benzhydrylidene] cyclohexa-2,5-dien-1-ylidene] dimethylammonium m-[[p-anilinophenyl]azo] benzenesulphonate | DNEL | Long term Oral | 0.42 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 1.44 mg/m³ | General population | Systemic |
| | DNEL | Long term Dermal | 2.08 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 3.48 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 4.88 mg/m³ | Workers | Systemic |

**PNECs**

No PNECs available

### 8.2 Exposure controls

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Individual protection measures**

**Hygiene measures** : Follow standard laboratory practice.

**Eye/face protection** : Not required under normal conditions of use.

**Skin protection**

**Hand protection** : Handle using standard laboratory gloves, appropriate for the overall task being conducted.

**Body protection** : Standard laboratory coat.

**Other skin protection** : Follow standard laboratory practice.

**Respiratory protection** : Not required under normal conditions of use.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance**

**Physical state** : Liquid. [The product is a marker. Viscous liquid.]

**Colour** : Black.

**Odour** : Solvent. [Slight]

**Odour threshold** : Not available.

**pH** : 4 to 5 [Conc. (% w/w): 100%]

**Melting point/freezing point** : Not available.

**Initial boiling point and boiling range** : 200°C

**Flash point** : Closed cup: 107.3°C

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Not available.

## SECTION 9: Physical and chemical properties

| | | |
|---|---|---|
| **Upper/lower flammability or explosive limits** | : | Not available. |
| **Vapour pressure** | : | Not available. |
| **Vapour density** | : | Not available. |
| **Relative density** | : | 1.1 |
| **Solubility(ies)** | : | In water: Fairly soluble.<br>Insoluble in light solvents. |
| **Partition coefficient: n-octanol/ water** | : | Not available. |
| **Auto-ignition temperature** | : | Not available. |
| **Decomposition temperature** | : | Not available. |
| **Viscosity** | : | Not available. |
| **Explosive properties** | : | Not available. |
| **Oxidising properties** | : | Not available. |

## SECTION 10: Stability and reactivity

**10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**10.2 Chemical stability** : The product is stable.

**10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame).

**10.5 Incompatible materials** : Reactive or incompatible with the following materials: oxidising materials and acids.

**10.6 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

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| N-methyl-2-pyrrolidone | LD50 Dermal | Rabbit | 8 g/kg | - |
| | LD50 Oral | Rat | 3914 mg/kg | - |
| 2-Phenoxyethanol | LD50 Dermal | Rat | 14422 mg/kg | - |
| | LD50 Oral | Rat | 1260 mg/kg | - |

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| Propan-1-ol | Eyes - Moderate irritant | Rabbit | - | 24 hours 20 mg | - |
| | Skin - Mild irritant | Rabbit | - | 500 mg | - |
| | Skin - Mild irritant | Human | - | 47 hours 100% | - |
| | Skin - Mild irritant | Human | - | 24 hours 100% | - |

**Sensitisation**

## SECTION 11: Toxicological information

There is no data available.

### Mutagenicity

There is no data available.

### Carcinogenicity

There is no data available.

### Reproductive toxicity

There is no data available.

### Teratogenicity

There is no data available.

### Specific target organ toxicity (single exposure)

| Product/ingredient name | Category | Target organs |
|---|---|---|
| N-methyl-2-pyrrolidone | Category 3 | Respiratory tract irritation |

### Specific target organ toxicity (repeated exposure)

There is no data available.

### Aspiration hazard

There is no data available.

**Information on likely routes of exposure** : Dermal contact. Eye contact. Inhalation. Ingestion.

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

#### Long term exposure

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

### Potential chronic health effects

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

## SECTION 11: Toxicological information

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Other information** : Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| 2-Phenoxyethanol | Acute LC50 344000 µg/L Fresh water | Fish - Pimephales promelas | 96 hours |

### 12.2 Persistence and degradability

There is no data available.

### 12.3 Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| N-methyl-2-pyrrolidone | -0.46 | - | low |
| 2-Phenoxyethanol | 1.107 | 0.3493 | low |

### 12.4 Mobility in soil

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

**12.6 Other adverse effects** : No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

**Product**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

## SECTION 13: Disposal considerations

### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

| | ADR/RID | ADN | IMDG | IATA |
|---|---|---|---|---|
| **14.1 UN number** | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| **14.2 UN proper shipping name** | - | - | - | - |
| **14.3 Transport hazard class(es)** | - | - | - | - |
| **14.4 Packing group** | - | - | - | - |
| **14.5 Environmental hazards** | No. | No. | No. | No. |

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## SECTION 15: Regulatory information

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

#### EU Regulation (EC) No. 1907/2006 (REACH)

##### Annex XIV - List of substances subject to authorisation

###### Annex XIV

None of the components are listed.

###### Substances of very high concern

| Ingredient name | Intrinsic property | Status | Reference number | Date of revision |
|---|---|---|---|---|
| N-methyl-2-pyrrolidone | Toxic to reproduction | Recommended | - | 2017-03-02 |

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Restricted to professional users.

#### Other EU regulations

## SECTION 15: Regulatory information

**Ozone depleting substances (1005/2009/EU)**

Not listed.

**Prior Informed Consent (PIC) (649/2012/EU)**

Not listed.

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments are still required.

## SECTION 16: Other information

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

| Classification | Justification |
|---|---|
| Not classified. | |

**Full text of abbreviated H statements**

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |
| H360D | May damage the unborn child. |

**Full text of classifications [CLP/GHS]**

| | |
|---|---|
| Acute Tox. 4, H302 | ACUTE TOXICITY (oral) - Category 4 |
| Eye Irrit. 2, H319 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 |
| Repr. 1B, H360D | REPRODUCTIVE TOXICITY (Unborn child) - Category 1B |
| Skin Irrit. 2, H315 | SKIN CORROSION/IRRITATION - Category 2 |
| STOT SE 3, H335 | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3 |

**History**

**Date of issue (dd/mm/yyyy)** : 15/11/2019

**Date of previous issue** : Not applicable

**Version** : 1

**Prepared by** : KMK Regulatory Services Inc.

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**