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

GHS product identifier : PEN-01, PEN-01IR, PEN-02, PEN-02IR, PEN-03, PEN-03IR, PEN-11, PEN-11IR, PEN-12, PEN-12IR

Other means of identification : Not available.

Product type : Liquid.

Identified uses

Ball point pen ink.

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
Email address of person responsible for sds: info@micronova-mfg.com

Emergency telephone number (with hours of operation) : CHEMTREC: +1-703-741-5970
CHEMTREC International: +1(703) 527-3887
(24 hours)

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS 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.

Other hazards which do not result in classification/ HHNOC/PHNOC : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	%	CAS number
N-methyl-2-pyrrolidone	≥25 - ≤50	872-50-4
2-Phenoxyethanol	≥25 - ≤50	122-99-6
[4-[p,p'-bis(Dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium m-[[p-anilinophenyl]azo]benzenesulphonate	≥25 - ≤50	65113-55-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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 and hence require reporting in this section.

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

Section 4. First aid measures

Description of necessary 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.

Most important symptoms/effects, 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.

Indication of immediate medical attention and special treatment needed, if necessary

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.

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

See toxicological information (Section 11)

Section 5. Fire-fighting measures

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.

Specific hazards arising from the chemical : Emits toxic fumes under fire conditions.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides

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.

Section 6. Accidental release measures

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 spilled material. Put on appropriate personal protective equipment.

For emergency responders : If specialized 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".

Environmental precautions : Avoid dispersal of spilled 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).

Methods and materials 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.

Section 7. Handling and storage

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. Remove contaminated clothing and protective equipment before entering eating areas.

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.

Section 8. Exposure controls/personal protection

Control parameters

United States

Occupational exposure limits

Ingredient name	Exposure limits
N-methyl-2-pyrrolidone	**AIHA WEEL (United States, 10/2011). Absorbed through skin.** TWA: 10 ppm 8 hours.
2-Phenoxyethanol	None.
[4-[p,p'-bis(Dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium m-[[p-anilinophenyl]azo]benzenesulphonate	None.

Canada

Occupational exposure limits

Ingredient name	Exposure limits
N-methyl-2-pyrrolidone	**CA Ontario Provincial (Canada, 7/2015).** TWA: 400 mg/m³ 8 hours.
2-Phenoxyethanol	**CA Ontario Provincial (Canada, 7/2015). Absorbed through skin.** TWA: 141 mg/m³ 8 hours. TWA: 25 ppm 8 hours.

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

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

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 will be sufficient.

Other skin protection : Follow standard laboratory practice.

Respiratory protection : Not required under normal conditions of use.

Section 9. Physical and chemical properties

Appearance

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

Color : Black.

Odor : Solvent. [Slight]

Odor threshold : Not available.

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

Melting point : Not available.

Boiling point : 200°C (392°F)

Flash point : Closed cup: 107.3°C (225.1°F)

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Section 9. Physical and chemical properties

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.1

Solubility : In water: Fairly soluble.
Insoluble in light solvents.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Section 10. Stability and reactivity

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

Chemical stability : The product is stable.

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

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials and acids.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

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
Xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 µL	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	100%	-
Ethylene Glycol Monopropyl Ether	Eyes - Severe irritant	Rabbit	-	24 hours 750 µg	-
	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Guinea pig	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Section 11. Toxicological information

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)

Name	Category	Route of exposure	Target organs
N-methyl-2-pyrrolidone	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the 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 and also 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.

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.

Section 11. Toxicological information

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

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

Persistence and degradability

There is no data available.

Bioaccumulative potential

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

Mobility in soil

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

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

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT	TDG	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-

Section 14. Transport information

Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

AERG : Not applicable.

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

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

Section 15. Regulatory information

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
N-methyl-2-pyrrolidone 2-Phenoxyethanol [4-[p,p'-bis(Dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium m-[[p-anilinophenyl]azo]benzenesulphonate	≥25 - ≤50 ≥25 - ≤50 ≥25 - ≤50	Yes. No. No.	No. No. No.	No. No. No.	Yes. Yes. Yes.	Yes. No. No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	N-methyl-2-pyrrolidone 2-Phenoxyethanol	872-50-4 122-99-6	≥25 - ≤50 ≥25 - ≤50
Supplier notification	N-methyl-2-pyrrolidone 2-Phenoxyethanol	872-50-4 122-99-6	≥25 - ≤50 ≥25 - ≤50

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: N-methyl-2-pyrrolidone

New York : None of the components are listed.

New Jersey : The following components are listed: N-methyl-2-pyrrolidone; 2-Phenoxyethanol

Pennsylvania : The following components are listed: N-methyl-2-pyrrolidone; 2-Phenoxyethanol

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
N-methyl-2-pyrrolidone	No.	Yes.	No.	3200 µg/day (inhalation)

Canada

Canadian lists

Canadian NPRI : The following components are listed: N-methyl-2-pyrrolidone

CEPA Toxic substances : None of the components are listed.

Canada inventory : At least one component is not listed in DSL but all such components are listed in NDSL.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
Not classified.	

History

Date of issue mm/dd/yyyy : 10/15/2016

Version : 1

Prepared by : KMK Regulatory Services Inc.

Section 16. Other information

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.