SDS list

Revision Date: April 1, 2026
Issued Date: December 13, 2016

Identification of the company

Product identifier

Product Name (Chemical Name, Trade Name, etc.) Pen

Details of the supplier of the SDS list

Manufacture:
Name Yokogawa Electric Corporation
Address 2-9-32 Nakacho, Musashino-shi, Tokyo, 180-8750 Japan
Phone 81-422-52-5555

Ink for Pen and ribbon cassette as the chart recorder's accessories includes chemical substances specified in Japanese domestic law 'Industrial Safety and Health Act'. Please read safety information in the safety data sheet (next page) of parts below for your safety and appropriate use.

Item	Product Name in SDS	Note
B9902AR	B9565ZJ	Plotter Pen: Purple

The information herein is only provision of information, and it does not represent a guarantee the properties of the product.

SAFETY DATA SHEET

Section1 Idetification of the Substance / Mixture and of the Company / Undertaking

1-1 Product Identifier

Product name / Ink name	Product name		Ink name	Color
	B9565ZJ	/	SV-2	PURPLE

1-2 Relevant Identified used of the substance or mixture and uses advised against

Identifier uses : Liquid mixture

1-3 Detail of the supplier of the safety data sheet

Manufacture : Right Co,Ltd
Address : No12 Nishimizue 4 Edogawaku Tokyo 134-8642 Japan
TEL : +81-3-3653-4320
FAX : +81-3-3653-8781

1-4 Emergency phone number

TEL : +81-3-3653-4320

Section2 Hazards identification

2.1. Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008:

: Acute Tox. 4: H332
: Skin Irrit. 2: H315
: Eye Irrit. 2: H319
: STOT SE.1: H370
: STOT SE.3: H335
: STOT SE.3: H336

2.2. Label elements

Pictogram

Signal word : Danger

Hazard Statements :

: H332：Harmful if inhaled
: H315: Causes skin irritation
: H319：Causes serious eye irritation
: H335: May cause respiratory irritation
: H336: May cause drowsiness or dizziness
: H370: Causes damage to central nervous system, blood system, kidneys

Precautionary Statements

[Prevention] : P280: Wear protective gloves/protective clothing/eye protection/face protection.
P264：Wash hands thoroughly after handling.
P270：Do no eat, drink or smoke when using this product.

[Emergency response] : P304+P340：IF INHALED,Remove person to fresh air and keep comfortable for breathing.
: P312:Call a POISON CENTER/ doctor
: P302+P352:IF ON SKIN: Wash with plenty of water
: P332+P313:If skin irritation occurs: Get medical advice/attention.
: P362+P364:Take off contaminated clothing and wash it before reuse.
: P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
: P337+P313:If eye irritation persists get medical advice/attention.
: P308+P311: IF exposed or concerned: Call a POISON CENTER/doctor.

[Storage] : P403+P235: Store in a well-ventilated place. Keep cool.

2.3. Other hazards

The product does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII

Section3 Composition/Information on ingredients

3-1 Substances : Not Applicable

3-2 Mixture

Information on ingredients

Chemical name	CAS No.	EC No.	Index No.	REACH Registration No.*	%Concentrati	Classification**
Dye	-	-	-	-	1.0~3.0	-
Glycerine	56-81-5	200-289-5	-	-	5.0~10.0	-
Ethylene glycol	107-21-1	203-473-3	603-027-00-1	-	10.0~20.0	Acute Tox. 4: H302 Acute Tox. 4: H332 Skin Irrit. 2: H315 Eye Irrit. 2: H319 STOT SE 1: H370 STOT RE 3: H335 STOT RE 3: H336
Sodium dehydroacetate	4418-26-2	-	-	-	<1.0	Acute Tox. 4: H302
Water	-	-	-	-	70.0~85.0	-

* Registration numbers of ingredients which shall be in compliance with Regulation (EC) No 1907/2006 will be filled in later.
** Full texts of relevant hazard statements and risk phrases can be seen in SECTION 16 of this SDS.

Section4 First aid measure

4.1. Description of first aid measures

IF INHALED : If you feel unwell, get medical advice/ attention immediately and at rest.
: If symptoms continue, call a doctor/physician.

IF ON SKIN : Rinse with plenty of water.
: If symptoms continue, call a doctor/physician.

IF IN EYES : Immediately rinse cautiously with water for 15 ~ 20 minutes.
: Remove contact lenses, if present and easy to do. Continue rinsing.
: If symptoms continue, call a doctor/physician.

IF SWALLOWED : Rinse mouth. Immediately get medical advice/attention.

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

: Causes skin irritation.
: Causes serious eye damage.
: May cause respiratory irritation.
: May cause drowsiness or dizziness.
: Suspected of damaging fertility or the unborn child.
: Causes damage to central nervous system, blood system, kidneys.

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

: No information

Section5 Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use water mist, dry chemical powder, fire foam or carbon dioxide.

Unsuitable extinguishing media : Applying direct water may be dangerous because fire may expand to surroundings.

5.2. Special hazards arising from the substance or mixture

: In case of fire, toxic decomposition products may be generated.

5.3. Advice for firefighters : Cut off any ignition sources and extinguish with an appropriate agent.
: Cool the surrounding tank and the buildings with direct water jet to avoid risk of fire spreading.
: Take action from windward.
: Keep out except responsible personnel.
: Move container to a safe area if it can be done without risk.

Section6 Accidential release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Wear suitable protective equipment (see Section 8) e.g.,
safety gloves, protective mask and/or protective glasses to prevent exposure.

For emergency responders : Keep out except responsible personnel.
: Wear suitable protective equipment described in "SECTION 8: Exposure controls/ personal protection".

6.2. Environmental precautions : Avoid release into the environment because product may cause local effects.

6.3. Methods and material for containment and cleaning up

: Stop leak if you can do it without risk.
: In case of small amounts, wipe off spilled material with waste or wiping cloth
and collect it in an adequate waste container.
: If case of large amounts, prevent leakage and enclose by embankment.
: Do not eat or drink near handling and storage locations.
: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).
: Prevent to flowing into drains, sewers, basements or closed areas.

6.4. Reference to other sections : Refer to "SECTION 8: Exposure controls/personal protection" and "SECTION 13: Disposal considerations" as appropriate.

Section7 Handling and storage

7.1. Precautions for safe handling

Protective measures : Install appropriate equipment and wear suitable protective apparatus described
in "SECTION 8: Exposure controls/ personal protection".
: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
: Ground/bond container and receiving equipment.
: Use explosion-proof electrical/ventilating/lighting equipment.
: Use only non-sparking tools.
: Take precautionary measures against static discharge.
: Avoid above 40°C when handling this product.

Advice on general occupational hygiene : Wash hands thoroughly after handling.
: Do not eat, drink or smoke when using this product.
: Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Install appropriate equipment and wear suitable protective apparatus described
in "SECTION 8: Exposure controls/ personal protection".

Incompatible materials : Oxidizing agents, reducing agents

Conditions for safe storage : Avoid sunlight. Store in a cool place.
: Avoid high-temperature materials.

Packing material : Use a sealed container without damage or leakage.

7.3. Specific end use(s) : Measuring device, recording material

Section8 Exposure control / personal protection

8.1. Control parameters

Acceptable concentration (exposure limit, biological exposure index)

EU IOELV (Eight hours) (2000) :	52 mg/m3, 20 ppm (Ethylene glycol)
EU IOELV (Short-term) (2000) :	104 mg/m3, 40 ppm (Ethylene glycol)
ACGIH TLV-TWA (2019) :	25 ppm (Ethylene glycol)
ACGIH TLV-STEL (2019) :	50 ppm, 10 mg/m3 (Ethylene glycol)

8.2. Exposure controls

Appropriate engineering controls :	Shower and eye washer should be available in the work area. Under high temperature or in case of mist generation, use ventilation.
Personal protective equipment	
Respiratory protection :	Wear appropriate protective mask or air aspirator as required.
Hand protection :	If hand contact is possible, wear protective gloves.
Eye protection :	Wear safety glasses or goggles if in eyes.
Skin and body protection :	Wear protective clothing and apron if necessary.

Section9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Odour :	Odour
Odour threshold :	No information
pH :	5.0～8.0
Melting point/freezing point :	No information
Initial boiling point and boiling range :	No information
Flash point :	No information
Evaporation rate :	No information
Flammability (solid, gas) :	No information
Upper/lower flammability or explosive limits :	No information
Vapour pressure :	No information
Vapour density :	No information
Relative density :	1.06
Solubility (ies) :	Soluble in water.
Partition coefficient: n-octanol/water :	No information
Auto-ignition temperature :	No information
Decomposition temperature :	No information
Viscosity :	No information
Explosive properties :	No information
Oxidising properties :	No information

9.2. Other information No information

Section10 Stability and reactivity

10.1. Reactivity	:	Stable under normal handling condition.
10.2. Chemical stability	:	Stable under normal handling condition.
10.3. Possibility of hazardous reactioins	:	No hazardous reaction expected under normal handling.
10.4. Condition to avoid	:	Avoid sunlight. Store in a cool place. Avoid above 40°C when handling this product.
10.5. Incompatible materials	:	Oxidizing agents, reducing agents
10.6. Hazardous decomposition products	:	In case of fire, toxic decomposition products may be generated.

Section11 Toxicological information

11.1. Information on toxicological effects

Information on product :	No information

Information on ingredients

Glycerine

Acute toxicity (oral) :	Rat LD50 = 27,200 mg/kg (SIDS)
Acute toxicity (dermal) :	Not classified because the substance is used in cosmetics and external medicines and its toxicity is low.
Skin corrosive / irritant :	Rat 500mg/24hours : Mild
Serious eye damage/irritation :	Rat 126mg/24hours : Mild
Carcinogenicity :	No information
Other toxicological information :	No information

Ethylene glycol

Acute toxicity (oral) :	Classified as "Acute Tox. 4: H302" according to EC No 1272/2008.
Acute toxicity (dermal) :	Rat LD50 = 2,800 mg/kg Rabbit LD50 = 9,530 -10,612 mg/kg
Acute toxicity (inhalation dust/mist) :	Rat 1h LC50 = 10.9 mg/L (4-hour equivalent value: 2.7 mg/L)
Skin corrosion/irritation :	In the Human patch test with 103 individuals, 0.2 mL of undiluted solution caused irritation effect. And slight irritation was noted in the dermal irritation tests with guinea pigs or rabbits.
Serious eye damage/irritation :	In the eye irritation test with rabbits, undiluted solution of this chemical caused no irritation. Single short-time exposure of the solution or vapor of this chemical to eye caused slight irritation without permanent corneal injury. In the accidental exposure to human eye, this chemical (concentration un-known) caused conjunctivitis, swelling, delayed light-reflection, severe corneal injury, then all symptoms disappeared within 4 weeks.
Carcinogenicity :	Ethylene glycol is classified A4 by ACGIH.

STOT-single exposure : In human, toxicological effects after ingestion of this chemical are mainly divided into following 3 stages.
The 1st stage (after 0.5-12h after ingestion): effects on central nervous system
(poisoning, lethargy, convulsions, coma) and metabolic disorders (acidosis, hyperkalemia, hypocalcemia).
The 2nd stage (12 - 24h after ingestion): effects on the heart and lungs
(tachycardia, hypertension, severe metabolic acidosis with compensated hyperpnoea,
hypoxic congestive heart failure, adult respiratory distress syndrome).
The 3rd stage (24 - 72h after ingestion): nephrotoxicity
(calcium oxalate deposition, hematuria, acute tubular necrosis, renal failure).
After them (6 - 14d after ingestion and onward) as 4th stage, neurological effects
(including facial nerve palsy, unclear speech, loss of motor ability, visual impairment) are observed in addition to central nervous system effects. Some reports suggested the cranial nerve damage.
Human oral lethal dose are reported as ca. 0.4 - 1.3 g/kg bw.
Although a few study are known by inhalation route in human, the chemical was reported to cause a pain in the throat and upper respiratory tract after 1.5 minutes at 55 ppm, and severe pain at 79 ppm or more.

Other toxicological information : No information

Sodium dehydroacetate

Acute toxicity (oral) : Rat LD50 = 500 mg/kg

Serious eye damage/irritation : In the eye irritation test in rabbits in which 0.1 mL of the chemical was sprayed directly from a distance of 6 inches for 48 seconds, the mean stimulation scores (maximum: 110) were recorded as 5, 1, 2 and 0 at 1, 2, 3, 4 days after application, respectively.

Germ cell mutagenicity : A weak positive result was noted in the micronucleus test (in vivo mutagenicity test) using mice.
In the in vitro mutagenicity tests, negative result in the Ames test and positive result in the chromosomal aberration test using Chinese hamster fibroblasts were reported.

Reproductive toxicity : In a reproductive toxicity test in which the chemical was administered orally from 6 to 17 gestation days in rats, inhibited maternal body weight gain, inhibited fetal body weight gain and fetal skeletal anomaly were noted, but no teratogenic effect was observed. Similar study in which the chemical was administered orally from 6 to 15 gestation days in mice, increased fetal death at high dose group (200 mg/kg) and 14 ribs in all dose groups were observed, but no other significant effects were noted.
An increased fetal death may be a secondary effect caused by general toxicity, but detail information was not available.
Taken together, no teratogenic and developmental effects on offspring were observed.

Other toxicological information : No information

Section12 Ecological information

12.1. Toxicity:

Information on product : No information

Information on ingredients

Ethylene glycol

Aquatic acute toxicity : Algae (Pseudokirchneriella subcapitata) 72h ErC50 > 1,000 mg/L
Crustacean (Daphnia magna) 48h EC50 > 1,120 mg/L
Fish (Oryzias latipes) 96h LC50 > 100 mg/L
Water solubility: 100 g/mL

Aquatic chronic toxicity : Crustacean (Ceriodaphnia dubia) 7d MATC=4.2 mg/L

12.2. Persistence and degradability:

Information on product : No information

Information on ingredients

Ethylene glycol : BOD = 90 % (14 days later)

12.3. Bioaccumulative potential:

Information on product : No information

Information on ingredients

Ethylene glycol : log Pow = -1.93

12.4. Mobility in soil:

Information on product : No information

Information on ingredients : No information

12.5. Results of PBT and vPvB assessment:

: The product does not meet the PBT and vPvB criteria.

12.6. Other adverse effects: : No information

Section13 Disposal considerations

13.1. Waste treatment methods

: Dispose of waste in accordance with applicable local, regional and international regulations and standards.
When disposing, consult to a certificated waste trader or local offices if they deal with the waste.
Used container should be recycled after cleaning or dispose of in compliance with related laws and local regulations.
Contents should be removed completely when dispose of empty containers.

Section14 Transport information

14.1. UN number	:	No information available
14.2. UN proper shipping name	:	No information available
	:	
14.3. Transport hazard class(es)	:	No information available
14.4. Packing group	:	No information available
14.5. Environmental hazards	:	Not applicable
14.6. Special precautions for user	:	Keep bottle closed with cap,(Do not leak ink)

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and IBC code
: Not applicable

Section15 Regulation information

15.1. Safety, health and environmental regulations/ legislation specific for the substance or mixture
: The product and its ingredients are not regulated by specific provisions related to protection of human health or the environment at EU level, e.g. not considered as SVHCs or POPs.

15.2. Chemical safety assessment : Not conducted

Section16 Other information

Update history: Date of issue : 19-Mar-2020

References:
: ACGIH, American Conference of Governmental Industrial Hygienists (2019) TLVs and BEIs.
: Relevant hazard statements of which do not appear elsewhere in this SDS
: H225: Highly Flammable liquid and vapour.
: H302: Harmful if swallowed.
: H319: Causes serious eye irritation.
: H332: Harmful if inhaled.

Abbreviations
: PBT: Persistent, Bioaccumulative and Toxic substance
: POPs: Persistent Organic Pollutants
: STOT: Specific Target Organ Toxicity
: SVHC: Substances of Very High Concern
: vPvB: Very Persistent and Very Bioaccumulative

[Disclaimer] : This SDS has been prepared based on the best available information however, it may not be sufficient in some cases. It is user's responsibility to modify or update any contents in this SDS regarding information on hazardous properties and/or instruction for safe handling of the product when they become available. Precautionary measures in this SDS are only applicable for normal handling conditions and it is necessary to take appropriate additional measures to ensure safe handling which depend on your specific use conditions or situations.