

Safety Data Sheet (SDS)

Preparation Date 2012/10/03

Revision Date 2016/01/12

Section 1 – CHEMICALS AND COMPANY IDENTIFICATION

Chemical Identifier ODF2-A
 Product Code ODF2A00001
 Company Name PENTEL CO., LTD.
 Address 7-2,KOAMICHO,NIHONBASHI,CHUO-KU,TOKYO
 Company Contact QUALITY ASSURANCE DEPARTMENT I
 Phone Number 048-928-6668
 Fax Number 048-928-9190
 Mail Address hinpo@pentel.co.jp
 Emergency Phone Number 048-928-6668
 Recommended Use and Restriction on Use ink

(E)NN50,60-A, NX(N)50,60-A, NR2-A, N850,860-A, N860INK-A, NX(N)S15-A, NR3,4-A, NXSINK-A

Section 2 – HAZARDS IDENTIFICATION

GHS Classification

Physicochemical Hazards Flammable liquids Category 2

Health Hazards Acute toxicity – inhalation (vapour) Category 4
 Serious eye damage/eye irritation Category 1
 Sensitization – respiratory Category 1
 Sensitization – skin Category 1
 Germ cell mutagenicity Category 1B
 Reproductive toxicity Category 1A
 Specific target organ toxicity (single exposure) Category 2(kidney,systemic toxicity,central nervous system)
 Specific target organ toxicity (single exposure) Category 3(narcotic effect,respiratory tract irritation)
 Specific target organ toxicity (repeated exposure) Category 1(liver)
 Specific target organ toxicity (repeated exposure) Category 2(central nervous system)

Environmental Hazards Hazard to the aquatic environment (acute hazard) Category 3
 Hazard to the aquatic environment (long-term hazard) Category 3
 Other hazards than mentioned above are Not applicable or No data available.

GHS Label Elements

Symbols



Signal Word Danger
 Hazard Statements H225 Highly flammable liquid and vapour
 H318 Causes serious eye damage

H317 May cause an allergic skin reaction
 H332 Harmful if inhaled
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
 H335 May cause respiratory irritation
 H336 May cause drowsiness and dizziness
 H340 May cause genetic defects
 H360 May damage fertility or the unborn child
 H371 May cause damage to kidney, systemic toxicity, central nervous system
 H372 Causes damage to liver through prolonged or repeated exposure
 H373 May cause damage to central nervous system through prolonged or repeated exposure
 H412 Harmful to aquatic life with long lasting effects

Precautionary Statements
 Prevention
 Precautionary Statements

Wear protective gloves, eye protection and face protection.(P280)

Keep container tightly closed.(P233)
 Avoid breathing mist, vapours and spray.(P261)
 Keep cool.(P235)
 Wash hand thoroughly after handling.(P264)
 Do not eat, drink or smoke when using this product.(P270)
 Use only outdoors or in a well-ventilated area.(P271)

Response
 Precautionary Statements

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.(P304+P340)
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.(P305+P351+P338)
 Get medical advice and attention if you feel unwell.(P314)
 If skin irritation or rash occurs, get medical advice and attention.(P333+P313)
 If eye irritation persists: Get medical advice and attention.(P337+P313)

Storage
 Precautionary Statements

Store in a well-ventilated place keeping container tightly closed.(P403+P233)

Disposal
 Precautionary Statements

Store locked up.(P405)
 Dispose of contents and container in accordance with local, regional and national regulations (to be specified).(P501)

Section 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Distinction of Substance or Mixture mixture

Chemical Name or Generic Name	Concentration or Its Ranges	Formula	ENCS No./ISHL No.		CAS RN
			ENCS No.	ISHL No.	
Ethanol	49.25%	CH ₃ CH ₂ OH	(2)-202	Existing	64-17-5
Isopropanol	7.72%	CH ₃ CH(OH)CH ₃	(2)-207	2-(8)-319	67-63-0

Acetone	0.63%	CH ₃ COCH ₃	(2)-542	Existing	67-64-1
1-Propanol	14%	CH ₃ CH ₂ CH ₂ OH	(2)-207	Existing	71-23-8
Benzyl alcohol	5%	C ₇ H ₅ O	(3)-1011	Existing	100-51-6
Alkyl(C10-16)benzenesulfonic acid	4%		Unknown	Unknown	68584-22-5
Rosin	7%		(7)-935	Existing	8050-09-7

Impurities and/or
Stabilizing Additives which
Contribute to the

No information available

Section 4 – FIRST AID MEASURES

Inhalation

If breathing is difficult, move affected person to the open air. Keep him or her at rest to allow easier breathing.
Get medical advice and attention if you feel unwell.

Skin Contact

Wash with plenty of soap and water.
If skin irritation or rash occurs, get medical advice and attention.

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
When the ocular stimulation lasts, Seek medical treatment and advice.

Ingestion

Rinse mouth. Do NOT induce vomiting.
Get medical advice and attention if you feel unwell.

Section 5 – FIRE FIGHTING MEASURES

Extinguishing Media

Protection of Fire Figther

Dry chemicals, CO₂, water spray or regular foam.
In fire fighting, wear respiratory protection and chemical protective clothing.

Section 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions,
Protective Equipment and
Emergency Procedures

Wear appropriate personal protective equipment (Refer to "Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION") and avoid inhalation or contact with eyes and skin.

Environmental

Do not release into the environment.
Pay attention not to cause the influence on the environment by discharging into rivers.
This product is water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water.
Stop leak if you can do it without risk.

Methods and Equipment
for Containment and
Cleaning up

Small spills; cover with DRY earth, DRY sand, or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
Allow material to solidify, and scrape up.
After removal, flush contaminated area thoroughly with water.
Absorb or cover with dry earth, sand or other non-combustible material and transfer to

Prevention Measures for Secondary Accidents

Vacuum or sweep up material and place in a disposal container.
 Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.
 Remove from water surface by skimming or with suitable absorbents. Do not use dispersants.
 Removes all ignition sources promptly. (Prohibition of smoking, sparks, and flames in the surrounding area).
 Prevent flowing into drain, sewage, basement, and closed area.
 Remove thoroughly since the smooth and slippery surface will be formed on the floor.

Section 7 – HANDLING AND STORAGE

Handling	Technical Measures	Provide ventilation system and use necessary personal protective equipment as described in "Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION".
	Precautions for Safe Handling	Do not eat, drink or smoke when using this product. Wash hand thoroughly after handling. Avoid breathing mist, vapours and spray. Avoid swallowing. Avoid contact with skin. Use exhaust ventilation. Avoid contact with eyes. Handle at a well-ventilated place. Protect from high temperature and direct sunlight.
Storage Precautionary Statements	Prevents Handling of Incompatible Substances or Mixtures	Refer to "Section 10 – STABILITY AND REACTIVITY".
	Specific Hygiene Measures	Wash hand thoroughly after handling.
	Technical Measures	The storage facility should be provided with necessary lighting, lighting equipment, and ventilator to store and handle dangerous goods. Refer to "Section 10 – STABILITY AND REACTIVITY". Have containers keep away from direct sunlight and heat. Keep away from heat. Store in a tightly closed container. Store locked up.
	Material Used in Packaging/Container	Use containers prescribed in the "Fire Service Law (Japan)" and the "UN Transport Regulations".

Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls		Good general ventilation should be sufficient to control airborne levels.
Personal Protective Equipment	Respiratory Protection	Wear an adequate protective apparatus for respiratory organs.
	Hand Protection	Wear protective gloves.
	Eye Protection	Wear eye protection. Protection glasses (ordinary glasses, ordinary glasses with side shields, and goggles).

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Physical State	liquid
	Form	liquid
	Colour	black
Odour		alcoholic
Odour threshold		No data available
pH		No data available
Melting Point/Freezing Point		No data available
Initial Boiling Point and Boiling Ranges		No data available
Flash Point		7.4°C (Tag Closed Cup)
Evaporation Rate		No data available
Flammability (solid, gas)		No data available
Flammability or Explosive Limits	Lower Limit	No data available
	Upper Limit	No data available
Vapour Pressure		No data available
Vapour Density		No data available
Specific Gravity (Density)		No data available
Partition Coefficient : n-Octanol/Water		No data available
Auto-Ignition		No data available
Decomposition Temperature		No data available
Viscosity		No data available
Kinematic viscosity		No data available

Section 10 – STABILITY AND REACTIVITY

Reactivity	No data available
Chemical stability	No data available
Possibility of Hazardous Reaction	No data available
Conditions to Avoid	No data available
Incompatible Substances or Mixtures	No data available
Hazardous Decomposition Products	No data available

Section 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity	No information available
Skin Corrosion/Irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory or Skin Sensitization	No data available
Germ Cell Mutagenicity	No data available
Carcinogenicity	No data available
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

Section 12 – ECOLOGICAL INFORMATION

Hazard to the aquatic environment (acute)	No data available
---	-------------------

Hazard to the aquatic environment (long-term hazard)	No data available
Hazard to the ozone layer	No data available

Section 13 – DISPOSAL CONSIDERATIONS

Residual Waste	Disposal should be in accordance with applicable regulations and standards by the respective local governments. Commission a waste disposal company, or a local public body who are licensed by local or regional government, to dispose of the material.
Contaminated Container and Packaging	Recycle containers after cleansing, or carry out the disposal under the related laws and regulations and the standards of the local governments.

Section 14 – TRANSPORT INFORMATION

International Regulations	Regulatory Information by Sea	Conform to the provisions of IMO.
	UN No.	1263
	Proper Shipping Class	PAINT 3
	Packing Group	II
	Marine Pollutant	Not applicable
	Transport in bulk according to MARPOL 73/78, Annex II, and the IBC code	Not applicable
	Regulatory Information by Air	Conform to the provisions of ICAO/IATA.
	UN No.	1263
	Proper Shipping Class	PAINT 3
	Packing Group	II
Regulations in Japan	Regulatory Information by Road or Rail	Not applicable
	Regulatory Information by Sea	Conform to the provisions of the Ship Safety Law.
	UN No.	1263
	Proper Shipping Name.	PAINT
	Class	3
	Packing Group	II
	Marine Pollutant	Not applicable
	Transport in bulk according to MARPOL 73/78, Annex II, and the IBC code	Not applicable
	Regulatory Information by Air	Conform to the provisions of the Ship Safety Law.
	UN No.	1263
	Proper Shipping Name.	PAINT
	Class	3
	Packing Group	II

Emergency Response
Guide Number

Not applicable

Section 15 – REGULATORY INFORMATION

Regulatory information with regard to this product in your country or in your region should be examined by your own responsibility.

Section 16 – OTHER INFORMATION

Information Contact
Other Property

No information available

This information is furnished without warranty express or implied.

This information is believed to be accurate to the best knowledge of PENTEL Co., Ltd. but not assumes legal responsibility for use of or reliance upon this information.

Safety Data Sheet (SDS)

Preparation Date 2012/10/03

Revision Date 2016/01/12

Section 1 – CHEMICALS AND COMPANY IDENTIFICATION

Chemical Identifier ODF2-B
 Product Code ODF2B00001
 Company Name PENTEL CO., LTD.
 Address 7-2,KOAMICHO,NIHONBASHI,CHUO-KU,TOKYO
 Company Contact QUALITY ASSURANCE DEPARTMENT I
 Phone Number 048-928-6668
 Fax Number 048-928-9190
 Mail Address hinpo@pentel.co.jp
 Emergency Phone Number 048-928-6668
 Recommended Use and Restriction on Use ink

(E)NN50,60-B, NX(N)50,60-B, NR2-B, NX(N)S15-B, NR3,4-B, NXSINK-B, N850,860-B, N860INK-B, NMS50,51-B, M10U-B

Section 2 – HAZARDS IDENTIFICATION

GHS Classification

Physicochemical Hazards Flammable liquids Category 2
 Health Hazards Acute toxicity – inhalation (vapour) Category 4
 Serious eye damage/eye irritation Category 2A
 Germ cell mutagenicity Category 1B
 Reproductive toxicity Category 1A
 Specific target organ toxicity (single exposure) Category 1(kidney,systemic toxicity,central nervous system)
 Specific target organ toxicity (single exposure) Category 3(narcotic effect,respiratory tract irritation)
 Specific target organ toxicity (repeated exposure) Category 1(liver)
 Specific target organ toxicity (repeated exposure) Category 2(blood vessel,central nervous system,spleen)
 Environmental Hazards Hazard to the aquatic environment (acute hazard) Category 3
 Hazard to the aquatic environment (long-term hazard) Category 3
 Other hazards than mentioned above are Not applicable or No data available.

GHS Label Elements

Symbols



Signal Word Danger
 Hazard Statements H225 Highly flammable liquid and vapour
 H412 Harmful to aquatic life with long lasting effects

	H319 Causes serious eye irritation H332 Harmful if inhaled H335 May cause respiratory irritation H336 May cause drowsiness and dizziness H340 May cause genetic defects H360 May damage fertility or the unborn child H370 Causes damage to kidney, systemic toxicity, central nervous system H372 Causes damage to liver through prolonged or repeated exposure H373 May cause damage to blood vessel, central nervous system, spleen through prolonged or repeated exposure
Precautionary Statements	
Prevention	Wear protective gloves, eye protection and face protection.(P280)
Precautionary Statements	Keep container tightly closed.(P233) Avoid breathing mist, vapours and spray.(P261) Keep cool.(P235) Wash hand thoroughly after handling.(P264) Do not eat, drink or smoke when using this product.(P270) Use only outdoors or in a well-ventilated area.(P271)
Response	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.(P304+P340) IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.(P305+P351+P338) Get medical advice and attention if you feel unwell.(P314) If skin irritation or rash occurs, get medical advice and attention.(P333+P313) If eye irritation persists: Get medical advice and attention.(P337+P313)
Precautionary Statements	
Storage	Store in a well-ventilated place keeping container tightly closed.(P403+P233)
Precautionary Statements	Store locked up.(P405)
Disposal	Dispose of contents and container in accordance with local, regional and national regulations (to be specified).(P501)
Precautionary Statements	

Section 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Distinction of Substance or Mixture

mixture

Chemical Name or Generic Name	Concentration or Its Ranges	Formula	ENCS No./ISHL No.		CAS RN
			ENCS No.	ISHL No.	
Ethanol	70.59%	CH ₃ CH ₂ OH	(2)-202	Existing	64-17-5
Isopropanol	11.06%	CH ₃ CH(OH)CH ₃	(2)-207	2-(8)-319	67-63-0
Acetone	0.91%	CH ₃ COCH ₃	(2)-542	Existing	67-64-1
Benzyl alcohol	5%	C ₇ H ₅ O	(3)-1011	Existing	100-51-6

Impurities and/or
Stabilizing Additives which
Contribute to the

No information available

Section 4 – FIRST AID MEASURES

Inhalation

If breathing is difficult, move affected person to the open air. Keep him or her at rest to allow easier breathing.
Get medical advice and attention if you feel unwell.

Skin Contact

Wash with plenty of soap and water.
If skin irritation or rash occurs, get medical advice and attention.

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
When the ocular stimulation lasts, Seek medical treatment and advice.

Ingestion

Rinse mouth. Do NOT induce vomiting.
Get medical advice and attention if you feel unwell.

Section 5 – FIRE FIGHTING MEASURES

Extinguishing Media
Protection of Fire Figther

Dry chemicals, CO2, water spray or regular foam.
In fire fighting, wear respiratory protection and chemical protective clothing.

Section 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions,
Protective Equipment and
Emergency Procedures

Wear appropriate personal protective equipment (Refer to "Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION") and avoid inhalation or contact with eyes and skin.

Environmental

Do not release into the environment.
Pay attention not to cause the influence on the environment by discharging into rivers.
This product is water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water.
Stop leak if you can do it without risk.

Methods and Equipment
for Containment and
Cleaning up

Small spills; cover with DRY earth, DRY sand, or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
Allow material to solidify, and scrape up.
After removal, flush contaminated area thoroughly with water.
Absorb or cover with dry earth, sand or other non-combustible material and transfer to Vacuum or sweep up material and place in a disposal container.
Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.
Remove from water surface by skimming or with suitable absorbents. Do not use dispersants.

Prevention Measures for Secondary Accidents	Removes all ignition sources promptly. (Prohibition of smoking, sparks, and flames in the surrounding area). Prevent flowing into drain, sewage, basement, and closed area. Remove thoroughly since the smooth and slippery surface will be formed on the floor.
---	--

Section 7 – HANDLING AND STORAGE

Handling	Technical Measures	Provide ventilation system and use necessary personal protective equipment as described in "Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION".
	Precautions for Safe Handling	Do not eat, drink or smoke when using this product. Wash hand thoroughly after handling. Avoid breathing mist, vapours and spray. Avoid swallowing. Avoid contact with skin. Use exhaust ventilation. Avoid contact with eyes. Handle at a well-ventilated place. Protect from high temperature and direct sunlight.
Storage Precautionary Statements	Prevents Handling of Incompatible Substances or Mixtures	Refer to "Section 10 – STABILITY AND REACTIVITY".
	Specific Hygiene Measures	Wash hand thoroughly after handling.
	Technical Measures	The storage facility should be provided with necessary lighting, lighting equipment, and ventilator to store and handle dangerous goods. Refer to "Section 10 – STABILITY AND REACTIVITY". Have containers keep away from direct sunlight and heat. Keep away from heat. Store in a tightly closed container. Store locked up.
	Material Used in Packaging/Container	Use containers prescribed in the "Fire Service Law (Japan)" and the "UN Transport Regulations".

Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls		Good general ventilation should be sufficient to control airborne levels.
Personal Protective Equipment	Respiratory Protection	Wear an adequate protective apparatus for respiratory organs.
	Hand Protection	Wear protective gloves.
	Eye Protection	Wear eye protection. Protection glasses (ordinary glasses, ordinary glasses with side shields, and goggles).

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Physical State	liquid
	Form	liquid
	Colour	red
Odour		alcoholic
Odour threshold		No data available
pH		No data available

Melting Point/Freezing Point	No data available
Initial Boiling Point and Boiling Ranges	No data available
Flash Point	7.4°C (Tag Closed Cup)
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Flammability or Explosive Limits	No data available
	Lower Limit
	Upper Limit
Vapour Pressure	No data available
Vapour Density	No data available
Specific Gravity (Density)	No data available
Partition Coefficient : n-Octanol/Water	No data available
Auto-Ignition	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Kinematic viscosity	No data available

Section 10 – STABILITY AND REACTIVITY

Reactivity	No data available
Chemical stability	No data available
Possibility of Hazardous Reaction	No data available
Conditions to Avoid	No data available
Incompatible Substances or Mixtures	No data available
Hazardous Decomposition Products	No data available

Section 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity	No information available
Skin Corrosion/Irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory or Skin Sensitization	No data available
Germ Cell Mutagenicity	No data available
Carcinogenicity	No data available
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

Section 12 – ECOLOGICAL INFORMATION

Hazard to the aquatic environment (acute)	No data available
Hazard to the aquatic environment (long-term hazard)	No data available
Hazard to the ozone layer	No data available

Section 13 – DISPOSAL CONSIDERATIONS

Residual Waste	Disposal should be in accordance with applicable regulations and standards by the respective local governments. Commission a waste disposal company, or a local public body who are licensed by local or regional government, to dispose of the material.
Contaminated Container and Packaging	Recycle containers after cleansing, or carry out the disposal under the related laws and regulations and the standards of the local governments.

Section 14 – TRANSPORT INFORMATION

International Regulations	Regulatory Information by Sea UN No. 1263 Proper Shipping Class 3 Packing Group II Marine Pollutant Not applicable Transport in bulk according to MARPOL 73/78, Annex II, and the IBC code Not applicable	Conform to the provisions of IMO.
Regulations in Japan	Regulatory Information by Air UN No. 1263 Proper Shipping Class 3 Packing Group II Regulatory Information by Road or Rail Not applicable Regulatory Information by Sea UN No. 1263 Proper Shipping Name. PAINT Class 3 Packing Group II Marine Pollutant Not applicable Transport in bulk according to MARPOL 73/78, Annex II, and the IBC code Not applicable Regulatory Information by Air UN No. 1263 Proper Shipping Name. PAINT Class 3 Packing Group II	Conform to the provisions of ICAO/IATA. Conform to the provisions of the Ship Safety Law. Conform to the provisions of the Ship Safety Law.
Emergency Response Guide Number	Not applicable	

Section 15 – REGULATORY INFORMATION

Regulatory information with regard to this product in your country or in your region should be examined by your own responsibility.

Section 16 – OTHER INFORMATION

Information Contact

Other Property

No information available

This information is furnished without warranty express or implied.

This information is believed to be accurate to the best knowledge of PENTEL Co., Ltd. but not assumes leagal responsibility for use of or reliance upon this information.

Safety Data Sheet (SDS)

Preparation Date 2012/10/03

Revision Date 2016/01/12

Section 1 – CHEMICALS AND COMPANY IDENTIFICATION

Chemical Identifier ODF2-C
 Product Code ODF2C00001
 Company Name PENTEL CO., LTD.
 Address 7-2,KOAMICHO,NIHONBASHI,CHUO-KU,TOKYO
 Company Contact QUALITY ASSURANCE DEPARTMENT I
 Phone Number 048-928-6668
 Fax Number 048-928-9190
 Mail Address hinpo@pentel.co.jp
 Emergency Phone Number 048-928-6668
 Recommended Use and Restriction on Use ink

NN50,60-C, NX(N)50,60-C, NR2-C, NX(N)S15-C,
 NR3,4-C, NXSINK-C, N850,860-C, N860INK-C,
 NMS50,51-C, M10U-C

Section 2 – HAZARDS IDENTIFICATION

GHS Classification

Physicochemical Hazards Flammable liquids Category 2
 Health Hazards Acute toxicity – inhalation (vapour) Category 4
 Serious eye damage/eye irritation Category 2B
 Germ cell mutagenicity Category 1B
 Reproductive toxicity Category 1A
 Specific target organ toxicity (single exposure) Category 2(kidney,systemic toxicity,central nervous system)
 Specific target organ toxicity (single exposure) Category 3(narcotic effect,respiratory tract irritation)
 Specific target organ toxicity (repeated exposure) Category 1(liver)
 Specific target organ toxicity (repeated exposure) Category 2(central nervous system)
 Environmental Hazards Hazard to the aquatic environment (acute hazard) Category 3
 Hazard to the aquatic environment (long-term hazard) Category 3
 Other hazards than mentioned above are Not applicable or No data available.

GHS Label Elements

Symbols



Signal Word Danger
 Hazard Statements H320 Causes eye irritation
 H225 Highly flammable liquid and vapour
 H412 Harmful to aquatic life with long lasting effects

	H332 Harmful if inhaled H335 May cause respiratory irritation H336 May cause drowsiness and dizziness H340 May cause genetic defects H360 May damage fertility or the unborn child H371 May cause damage to kidney, systemic toxicity, central nervous system H372 Causes damage to liver through prolonged or repeated exposure H373 May cause damage to central nervous system through prolonged or repeated exposure
Precautionary Statements	
Prevention	Wear protective gloves, eye protection and face protection.(P280)
Precautionary Statements	Keep container tightly closed.(P233) Avoid breathing mist, vapours and spray.(P261) Keep cool.(P235) Wash hand thoroughly after handling.(P264) Do not eat, drink or smoke when using this product.(P270) Use only outdoors or in a well-ventilated area.(P271)
Response	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.(P304+P340) IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.(P305+P351+P338) Get medical advice and attention if you feel unwell.(P314) If skin irritation or rash occurs, get medical advice and attention.(P333+P313) If eye irritation persists: Get medical advice and attention.(P337+P313)
Precautionary Statements	
Storage	Store in a well-ventilated place keeping container tightly closed.(P403+P233)
Precautionary Statements	Store locked up.(P405)
Disposal	Dispose of contents and container in accordance with local, regional and national regulations (to be specified).(P501)
Precautionary Statements	

Section 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Distinction of Substance or Mixture

mixture

Chemical Name or Generic Name	Concentration or Its Ranges	Formula	ENCS No./ISHL No.		CAS RN
			ENCS No.	ISHL No.	
Ethanol	56.73%	CH ₃ CH ₂ OH	(2)-202	Existing	64-17-5
Isopropanol	8.89%	CH ₃ CH(OH)CH ₃	(2)-207	2-(8)-319	67-63-0
Acetone	0.73%	CH ₃ COCH ₃	(2)-542	Existing	67-64-1
Benzyl alcohol	5%	C ₇ H ₅ O	(3)-1011	Existing	100-51-6
1-ethoxy-2-propanol	10%		(7)-97	Existing	1569-02-4

Impurities and/or
Stabilizing Additives which
Contribute to the

No information available

Section 4 – FIRST AID MEASURES

Inhalation

If breathing is difficult, move affected person to the open air. Keep him or her at rest to allow easier breathing.
Get medical advice and attention if you feel unwell.

Skin Contact

Wash with plenty of soap and water.
If skin irritation or rash occurs, get medical advice and attention.

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
When the ocular stimulation lasts, Seek medical treatment and advice.

Ingestion

Rinse mouth. Do NOT induce vomiting.
Get medical advice and attention if you feel unwell.

Section 5 – FIRE FIGHTING MEASURES

Extinguishing Media
Protection of Fire Figther

Dry chemicals, CO₂, water spray or regular foam.
In fire fighting, wear respiratory protection and chemical protective clothing.

Section 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions,
Protective Equipment and
Emergency Procedures

Wear appropriate personal protective equipment (Refer to "Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION") and avoid inhalation or contact with eyes and skin.

Environmental

Do not release into the environment.
Pay attention not to cause the influence on the environment by discharging into rivers.
This product is water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water.
Stop leak if you can do it without risk.

Methods and Equipment
for Containment and
Cleaning up

Small spills; cover with DRY earth, DRY sand, or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
Allow material to solidify, and scrape up.
After removal, flush contaminated area thoroughly with water.
Absorb or cover with dry earth, sand or other non-combustible material and transfer to Vacuum or sweep up material and place in a disposal container.

Prevention Measures for
Secondary Accidents

Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Remove from water surface by skimming or with suitable absorbents. Do not use dispersants.
Removes all ignition sources promptly. (Prohibition of smoking, sparks, and flames in the surrounding area).

Prevent flowing into drain, sewage, basement, and closed area.

Remove thoroughly since the smooth and slippery surface will be formed on the floor.

Section 7 – HANDLING AND STORAGE

Handling	Technical Measures	Provide ventilation system and use necessary personal protective equipment as described in "Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION".
	Precautions for Safe Handling	Do not eat, drink or smoke when using this product. Wash hand thoroughly after handling. Avoid breathing mist, vapours and spray. Avoid swallowing. Avoid contact with skin. Use exhaust ventilation. Avoid contact with eyes. Handle at a well-ventilated place. Protect from high temperature and direct sunlight.
Storage Precautionary Statements	Prevents Handling of Incompatible Substances or Mixtures	Refer to "Section 10 – STABILITY AND REACTIVITY".
	Specific Hygiene Measures	Wash hand thoroughly after handling.
	Technical Measures	The storage facility should be provided with necessary lighting, lighting equipment, and ventilator to store and handle dangerous goods. Refer to "Section 10 – STABILITY AND REACTIVITY". Have containers keep away from direct sunlight and heat. Keep away from heat. Store in a tightly closed container. Store locked up.
	Material Used in Packaging/Container	Use containers prescribed in the "Fire Service Law (Japan)" and the "UN Transport Regulations".

Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls		Good general ventilation should be sufficient to control airborne levels.
Personal Protective Equipment	Respiratory Protection	Wear an adequate protective apparatus for respiratory organs.
	Hand Protection	Wear protective gloves.
	Eye Protection	Wear eye protection. Protection glasses (ordinary glasses, ordinary glasses with side shields, and goggles).

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Physical State	liquid
	Form	liquid
	Colour	blue
Odour		alcoholic
Odour threshold		No data available
pH		No data available
Melting Point/Freezing Point		No data available

Initial Boiling Point and Boiling Ranges	No data available
Flash Point	7.4°C (Tag Closed Cup)
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Flammability or Explosive Limits	No data available
	Lower Limit
	Upper Limit
Vapour Pressure	No data available
Vapour Density	No data available
Specific Gravity (Density)	No data available
Partition Coefficient : n-Octanol/Water	No data available
Auto-Ignition	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Kinematic viscosity	No data available
Section 10 – STABILITY AND REACTIVITY	
Reactivity	No data available
Chemical stability	No data available
Possibility of Hazardous Reaction	No data available
Conditions to Avoid	No data available
Incompatible Substances or Mixtures	No data available
Hazardous Decomposition Products	No data available
Section 11 – TOXICOLOGICAL INFORMATION	
Acute Toxicity	No information available
Skin Corrosion/Irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory or Skin Sensitization	No data available
Germ Cell Mutagenicity	No data available
Carcinogenicity	No data available
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
Section 12 – ECOLOGICAL INFORMATION	
Hazard to the aquatic environment (acute)	No data available
Hazard to the aquatic environment (long-term hazard)	No data available
Hazard to the ozone layer	No data available
Section 13 – DISPOSAL CONSIDERATIONS	
Residual Waste	Disposal should be in accordance with applicable regulations and standards by the respective local governments.

Contaminated Container and Packaging

Commission a waste disposal company, or a local public body who are licensed by local or regional government, to dispose of the material. Recycle containers after cleansing, or carry out the disposal under the related laws and regulations and the standards of the local governments.

Section 14 – TRANSPORT INFORMATION

International Regulations	Regulatory Information by Sea UN No. Proper Shipping Class Packing Group Marine Pollutant Transport in bulk according to MARPOL 73/78, Annex II, and the IBC code	Conform to the provisions of IMO. 1263 PAINT 3 II Not applicable Not applicable
Regulations in Japan	Regulatory Information by Air UN No. Proper Shipping Class Packing Group Regulatory Information by Road or Rail Regulatory Information by Sea UN No. Proper Shipping Name. Class Packing Group Marine Pollutant Transport in bulk according to MARPOL 73/78, Annex II, and the IBC code Regulatory Information by Air UN No. Proper Shipping Name. Class Packing Group	Conform to the provisions of ICAO/IATA. 1263 PAINT 3 II Not applicable Conform to the provisions of the Ship Safety Law. 1263 PAINT 3 II Not applicable Conform to the provisions of the Ship Safety Law. 1263 PAINT 3 II Not applicable
Emergency Response Guide Number		Not applicable

Section 15 – REGULATORY INFORMATION

Regulatory information with regard to this product in your country or in your region should be examined by your own responsibility.

Section 16 – OTHER INFORMATION

Information Contact No information available

Other Property

This information is furnished without warranty
express or implied.

This information is believed to be accurate to the
best knowledge of PENTEL Co., Ltd. but not
assumes legal responsibility for use of or reliance
upon this information.

Safety Data Sheet (SDS)

Preparation Date 2012/10/03

Revision Date 2016/01/12

Section 1 – CHEMICALS AND COMPANY IDENTIFICATION

Chemical Identifier ODF2-D
 Product Code ODF2D00001
 Company Name PENTEL CO., LTD.
 Address 7-2,KOAMICHO,NIHONBASHI,CHUO-KU,TOKYO
 Company Contact QUALITY ASSURANCE DEPARTMENT I
 Phone Number 048-928-6668
 Fax Number 048-928-9190
 Mail Address hinpo@pentel.co.jp
 Emergency Phone Number 048-928-6668
 Recommended Use and Restriction on Use ink
 NN50-D, NXS15-D, NR3-D, NXSINK-D, N850,860-D, N860INK-D

Section 2 – HAZARDS IDENTIFICATION

GHS Classification

Physicochemical Hazards Flammable liquids Category 2
 Health Hazards Acute toxicity – inhalation (vapour) Category 4
 Serious eye damage/eye irritation Category 2A
 Germ cell mutagenicity Category 1B
 Reproductive toxicity Category 1A
 Specific target organ toxicity (single exposure) Category 1(kidney,systemic toxicity,central nervous system)
 Specific target organ toxicity (single exposure) Category 3(narcotic effect,respiratory tract irritation)
 Specific target organ toxicity (repeated exposure) Category 1(liver)
 Specific target organ toxicity (repeated exposure) Category 2(blood vessel,central nervous system,spleen)
 Environmental Hazards Hazard to the aquatic environment (acute hazard) Category 3
 Hazard to the aquatic environment (long-term hazard) Category 3
 Other hazards than mentioned above are Not applicable or No data available.

GHS Label Elements

Symbols



Signal Word Danger
 Hazard Statements H225 Highly flammable liquid and vapour
 H332 Harmful if inhaled
 H412 Harmful to aquatic life with long lasting effects

	H319 Causes serious eye irritation H335 May cause respiratory irritation H336 May cause drowsiness and dizziness H340 May cause genetic defects H360 May damage fertility or the unborn child H370 Causes damage to kidney, systemic toxicity, central nervous system H372 Causes damage to liver through prolonged or repeated exposure H373 May cause damage to blood vessel, central nervous system, spleen through prolonged or repeated exposure
Precautionary Statements	
Prevention	Wear protective gloves, eye protection and face protection.(P280)
Precautionary Statements	Keep container tightly closed.(P233) Avoid breathing mist, vapours and spray.(P261) Keep cool.(P235) Wash hand thoroughly after handling.(P264) Do not eat, drink or smoke when using this product.(P270) Use only outdoors or in a well-ventilated area.(P271)
Response	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.(P304+P340) IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.(P305+P351+P338) Get medical advice and attention if you feel unwell.(P314) If skin irritation or rash occurs, get medical advice and attention.(P333+P313) If eye irritation persists: Get medical advice and attention.(P337+P313)
Precautionary Statements	
Storage	Store in a well-ventilated place keeping container tightly closed.(P403+P233)
Precautionary Statements	Store locked up.(P405)
Disposal	Dispose of contents and container in accordance with local, regional and national regulations (to be specified).(P501)
Precautionary Statements	

Section 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Distinction of Substance or Mixture

mixture

Chemical Name or Generic Name	Concentration or Its Ranges	Formula	ENCS No./ISHL No.		CAS RN
			ENCS No.	ISHL No.	
Ethanol	65.63%	CH ₃ CH ₂ OH	(2)-202	Existing	64-17-5
Isopropanol	10.29%	CH ₃ CH(OH)CH ₃	(2)-207	2-(8)-319	67-63-0
Acetone	0.84%	CH ₃ COCH ₃	(2)-542	Existing	67-64-1
Benzyl alcohol	4%	C ₇ H ₅ O	(3)-1011	Existing	100-51-6

Impurities and/or
Stabilizing Additives which
Contribute to the

No information available

Section 4 – FIRST AID MEASURES

Inhalation

If breathing is difficult, move affected person to the open air. Keep him or her at rest to allow easier breathing.
Get medical advice and attention if you feel unwell.

Skin Contact

Wash with plenty of soap and water.
If skin irritation or rash occurs, get medical advice and attention.

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
When the ocular stimulation lasts, Seek medical treatment and advice.

Ingestion

Rinse mouth. Do NOT induce vomiting.
Get medical advice and attention if you feel unwell.

Section 5 – FIRE FIGHTING MEASURES

Extinguishing Media

Dry chemicals, CO₂, water spray or regular foam.

Protection of Fire Figther

In fire fighting, wear respiratory protection and chemical protective clothing.

Section 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions,
Protective Equipment and
Emergency Procedures

Wear appropriate personal protective equipment (Refer to "Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION") and avoid inhalation or contact with eyes and skin.

Environmental

Do not release into the environment.
Pay attention not to cause the influence on the environment by discharging into rivers.
This product is water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water.
Stop leak if you can do it without risk.

Methods and Equipment
for Containment and
Cleaning up

Small spills; cover with DRY earth, DRY sand, or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
Allow material to solidify, and scrape up.
After removal, flush contaminated area thoroughly with water.
Absorb or cover with dry earth, sand or other non-combustible material and transfer to Vacuum or sweep up material and place in a disposal container.

Prevention Measures for
Secondary Accidents

Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Remove from water surface by skimming or with suitable absorbents. Do not use dispersants.
Removes all ignition sources promptly. (Prohibition of smoking, sparks, and flames in the surrounding area).

Prevent flowing into drain, sewage, basement, and closed area.

Remove thoroughly since the smooth and slippery surface will be formed on the floor.

Section 7 – HANDLING AND STORAGE

Handling	Technical Measures	Provide ventilation system and use necessary personal protective equipment as described in "Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION".
	Precautions for Safe Handling	Do not eat, drink or smoke when using this product. Wash hand thoroughly after handling. Avoid breathing mist, vapours and spray. Avoid swallowing. Avoid contact with skin. Use exhaust ventilation. Avoid contact with eyes. Handle at a well-ventilated place. Protect from high temperature and direct sunlight.
Storage Precautionary Statements	Prevents Handling of Incompatible Substances or Mixtures	Refer to "Section 10 – STABILITY AND REACTIVITY".
	Specific Hygiene Measures	Wash hand thoroughly after handling.
	Technical Measures	The storage facility should be provided with necessary lighting, lighting equipment, and ventilator to store and handle dangerous goods. Refer to "Section 10 – STABILITY AND REACTIVITY". Have containers keep away from direct sunlight and heat. Keep away from heat. Store in a tightly closed container. Store locked up.
	Material Used in Packaging/Container	Use containers prescribed in the "Fire Service Law (Japan)" and the "UN Transport Regulations".

Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls		Good general ventilation should be sufficient to control airborne levels.
Personal Protective Equipment	Respiratory Protection	Wear an adequate protective apparatus for respiratory organs.
	Hand Protection	Wear protective gloves.
	Eye Protection	Wear eye protection. Protection glasses (ordinary glasses, ordinary glasses with side shields, and goggles).

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Physical State	liquid
	Form	liquid
	Colour	green
Odour		alcoholic
Odour threshold		No data available
pH		No data available
Melting Point/Freezing Point		No data available

Initial Boiling Point and Boiling Ranges	No data available
Flash Point	7.4°C (Tag Closed Cup)
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Flammability or Explosive Limits	No data available
	Lower Limit
	Upper Limit
Vapour Pressure	No data available
Vapour Density	No data available
Specific Gravity (Density)	No data available
Partition Coefficient : n-Octanol/Water	No data available
Auto-Ignition	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Kinematic viscosity	No data available

Section 10 – STABILITY AND REACTIVITY

Reactivity	No data available
Chemical stability	No data available
Possibility of Hazardous Reaction	No data available
Conditions to Avoid	No data available
Incompatible Substances or Mixtures	No data available
Hazardous Decomposition Products	No data available

Section 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity	No information available
Skin Corrosion/Irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory or Skin Sensitization	No data available
Germ Cell Mutagenicity	No data available
Carcinogenicity	No data available
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

Section 12 – ECOLOGICAL INFORMATION

Hazard to the aquatic environment (acute)	No data available
Hazard to the aquatic environment (long-term hazard)	No data available
Hazard to the ozone layer	No data available

Section 13 – DISPOSAL CONSIDERATIONS

Residual Waste	Disposal should be in accordance with applicable regulations and standards by the respective local governments.
----------------	---

Contaminated Container and Packaging

Commission a waste disposal company, or a local public body who are licensed by local or regional government, to dispose of the material. Recycle containers after cleansing, or carry out the disposal under the related laws and regulations and the standards of the local governments.

Section 14 – TRANSPORT INFORMATION

International Regulations	Regulatory Information by Sea UN No. Proper Shipping Class Packing Group Marine Pollutant Transport in bulk according to MARPOL 73/78, Annex II, and the IBC code	Conform to the provisions of IMO. 1263 PAINT 3 II Not applicable Not applicable
Regulations in Japan	Regulatory Information by Air UN No. Proper Shipping Class Packing Group Regulatory Information by Road or Rail Regulatory Information by Sea UN No. Proper Shipping Name. Class Packing Group Marine Pollutant Transport in bulk according to MARPOL 73/78, Annex II, and the IBC code Regulatory Information by Air UN No. Proper Shipping Name. Class Packing Group	Conform to the provisions of ICAO/IATA. 1263 PAINT 3 II Not applicable Conform to the provisions of the Ship Safety Law. 1263 PAINT 3 II Not applicable Not applicable Conform to the provisions of the Ship Safety Law. 1263 PAINT 3 II Not applicable
Emergency Response Guide Number		Not applicable

Section 15 – REGULATORY INFORMATION

Regulatory information with regard to this product in your country or in your region should be examined by your own responsibility.

Section 16 – OTHER INFORMATION

Information Contact	No information available
---------------------	--------------------------

Other Property

This information is furnished without warranty
express or implied.

This information is believed to be accurate to the
best knowledge of PENTEL Co., Ltd. but not
assumes legal responsibility for use of or reliance
upon this information.