

Safety Data Sheet

1 Identification

Product identifier

V-BOND Cyan Ink

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

Inkjet Printing

Details of the supplier of the safety data sheet

Manufacture's name: Roland DGA

Address: 15363 Barranca Parkway
Irvine, CA 92618

Phone: (949) 727-2100

Revision: April 16, 2021

2 Hazard(s) identification

Classification of the substance or mixture

This product is classified as dangerous according to GHS.

Acute toxicity (oral) 4: H302 Harmful if swallowed

Sensitivity – Skin 1: H317 May cause a mild allergic skin reaction

Reproductive toxicity 1A: H360 May damage fertility or the unborn child

GHS label elements, including precautionary statements



GHS07 GHS08

Signal word: Danger

Hazard-determining components of labeling:

2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

propylidynetrimethanol, propoxylated, esters with acrylic acid

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

2,6-bis(1,1-dimethylethyl)-4-(phenylenemethylene)cyclohexa-2,5-dien-1-one

Hazard statements

Harmful if swallowed.

May cause an allergic skin reaction.

May damage fertility or the unborn child.

Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If swallowed: Call a poison center/doctor if you feel unwell.
 Rinse mouth.
 If on skin: Wash with plenty of water.
 If exposed or concerned: Get medical advice/attention.
 Specific treatment (see on this label).
 If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical nature: mixture

Description: Mixture of the substances listed below with nonhazardous additions

Dangerous Components:

CAS No.	Chemical Name	GHS Code	Content %
86273-46-3	2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester	H302; H317	≥ 50 - ≤ 100%
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	H361	≥ 2.5 - ≤ 10%
53879-54-2	propylidynetrimethanol, propoxylated, esters with acrylic acid	H317; H319	2.5 - 10%
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	H317	≤ 2.5%
71868-10-5	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	H302; H360	≥ 0 - ≤ 2.5%
119313-12-1	2-benzyl-2-dimethylamino-4-morpholinobutyrophenone	H360	≥ 0 - ≤ 2.5%
7078-98-0	2,6-bis(1,1-dimethylethyl)-4-(phenylenemethylene)cyclohexa-2,5-dien-1-one	H317	≥ 0 - ≤ 2.5%

4 First-aid measures

Description of first aid measures

After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness, place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist, consult doctor.

Most important symptoms and effects, both acute and delayed: No further relevant information available.

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing media - Suitable extinguishing media: Use fire-fighting measures that suit the environment.

Special hazards arising from the substance or mixture - No further relevant information available.

Advice for firefighters - Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Not required

Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires: No special measurements required.

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: None

Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

Occupational Exposure Limits: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls:**Personal protective equipment:****General protective and hygienic measures:**

Keep away from foodstuffs, beverages, and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Breathing equipment:

In case of brief exposure or low pollution, use respiratory filter device.

In case of intensive or longer exposure, use respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties**Information on basic physical and chemical properties**

Appearance:

Form: Liquid

Color: Cyan

Odor: Characteristic

Odor threshold: Not determined

pH: Not determined

Melting point/freezing point: Undetermined

Initial boiling point and boiling range: Undetermined

Flash point: Not applicable

Flammability (solid, gas): Not applicable

Decomposition temperature: Not determined

Auto igniting: Product is not self-igniting

Danger of explosion: Product does not present an explosion hazard

Upper/lower flammability or explosive limits: Not determined

Vapor pressure: Not determined

Density: Not determined

Relative density: Not determined

Vapor density: Not determined

Evaporation rate: Not determined

Susceptibility in / Miscibility with Water: Not miscible or difficult to mix

Partition coefficient (n-octanol/water): Not determined

Viscosity – Dynamic and Kinematic: Not determined

Other information: No further relevant information available.

10 Stability and reactivity

Reactivity: No further relevant information available.

Chemical stability:

Thermal decomposition/conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral LD50 > 589 – 603 mg/kg

86273-46-3 2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester

Oral LD50 500 mg/kg (ATE)

53879-54-2 propylidynetrimethanol, propoxylated, esters with acrylic acid

Oral LD50 > 2,000 mg/kg (rat)

71868-10-5 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one

Oral LD50 500 mg/kg (ATE)

Primary irritant effect:

On the skin: No irritant effect.

On the eye: No irritating effect.

Sensitization: Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)

119-61-9 benzophenone: 2B

100-41-4 ethylbenzene: 2B

127-19-5 N,N-dimethylacetamide: 2B

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Toxicity:

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Ecotoxicological effects: Harmful to fish

Additional ecological information:

General notes:

Water hazard class 2 (Self-assessment): Hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13 Disposal considerations

Waste treatment methods:

Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging:

Recommendation: Disposal must be made according to official local regulations.

14 Transport information

UN Class/UN Number:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

UN proper shipping name:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Transport hazard class(es):

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Packing group:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Environmental hazards:

ADR/ADG/DOT, IMDG, or IATA : Not applicable

Special precautions for user:

Not applicable

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

UN "Model Regulation": Not Regulated

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture SARA**Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

TSCA (Toxic Substances Control Act):

TSCA Section 5(a) - Chemicals with Significant New Use Rules (SNURs): 40 CFR 721.10064 - 2-propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester (CAS 86273-46-3)

TSCA Section 12(b) - Export Notification: 2-propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester (CAS 86273-46-3)

86273-46-3 2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester: ACTIVE

75980-60-8 Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide: ACTIVE

53879-54-2 propylidynetrimethanol, propoxylated, esters with acrylic acid: ACTIVE

162881-26-7 phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide: ACTIVE

71868-10-5 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one: ACTIVE

119313-12-1 2-benzyl-2-dimethylamino-4-morpholinobutyrophenone: ACTIVE

7078-98-0 2,6-bis(1,1-dimethylethyl)-4-(phenylenemethylene)cyclohexa-2,5-dien-1-one: ACTIVE

Hazardous Air Pollutants

100-41-4

ethylbenzene

Proposition 65**Chemicals known to cause cancer**

119-61-9 benzophenone

100-41-4 ethylbenzene

127-19-5 N,N-dimethylacetamide

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

127-19-5 N,N-dimethylacetamide

Chemicals known to cause developmental toxicity:

127-19-5 N,N-

dimethylacetamide

Carcinogenic categories**EPA (Environmental Protection Agency)**

100-41-4 ethylbenzene: D

TLV (Threshold Limit Value established by ACGIH)

100-41-4 ethylbenzene: A3

127-19-5 N,N-dimethylacetamide: A4

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazardous pictograms



GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:

2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester
 Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
 propylidynetrimethanol, propoxylated, esters with acrylic acid
 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
 phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide
 2,6-bis(1,1-dimethylethyl)-4-(phenylenemethylene)cyclohexa-2,5-dien-1-one

Hazard statements

Harmful if swallowed.
 May cause an allergic skin reaction.
 May damage fertility or the unborn child.

Precautionary statements

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Avoid breathing dust/fume/gas/mist/vapors/spray.
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If swallowed: Call a poison center/doctor if you feel unwell.
 Rinse mouth.
 If on skin: Wash with plenty of water.
 If exposed or concerned: Get medical advice/attention.
 Specific treatment (see on this label).
 If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H302 Harmful if swallowed.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.

H360 May damage fertility or the unborn child.

H361 Suspected of damaging fertility or the unborn child.

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

Repr. 1A: Reproductive toxicity – Category 1A

Repr. 1B: Reproductive toxicity – Category 1B

Repr. 2: Reproductive toxicity – Category 2

*** Data compared to the previous version altered.**

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DGA does not warrant the completeness or accuracy of the information contained herein.

Safety Data Sheet

1 Identification

Product identifier

V-BOND Magenta Ink

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

Inkjet Printing

Details of the supplier of the safety data sheet

Manufacture's name: Roland DGA

Address: 15363 Barranca Parkway
Irvine, CA 92618

Phone: (949) 727-2100

Revision: April 16, 2021

2 Hazard(s) identification

Classification of the substance or mixture

This product is classified as dangerous according to GHS.

Acute toxicity (oral) 4: H302 Harmful if swallowed

Sensitivity – Skin 1: H317 May cause an allergic skin reaction

Reproductive toxicity 1A: H360 May damage fertility or the unborn child

GHS label elements, including precautionary statements



GHS07 GHS08

Signal word: Danger

Hazard-determining components of labeling:

2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Neopentylglycol(PO)₂ Diacrylate

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Hazard statements

Harmful if swallowed.

May cause an allergic skin reaction.

May damage fertility or the unborn child.

Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If swallowed: Call a poison center/doctor if you feel unwell.
 Rinse mouth.
 If on skin: Wash with plenty of water.
 If exposed or concerned: Get medical advice/attention.
 Specific treatment (see on this label).
 If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

4.9% of the mixture consists of component(s) of unknown toxicity.

3 Composition/information on ingredients

Chemical nature: mixture

Description: Mixture of the substances listed below with nonhazardous additions

Dangerous Components:

CAS No.	Chemical Name	GHS Code	Content %
86273-46-3	2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester	H302; H317	≥ 50 - ≤ 100%
84170-74-1	Neopentylglycol(PO) ₂ Diacrylate	H317	≥ 2.5 - ≤ 10%
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	H361	≥ 0 - ≤ 10%
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	H317	≤ 2.5%
71868-10-5	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	H302; H360	≥ 0 - ≤ 2.5%
119313-12-1	2-benzyl-2-dimethylamino-4-morpholinobutyrophenone	H360	≥ 0 - ≤ 2.5%

4 First-aid measures

Description of first aid measures**After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness, place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist, consult doctor.

Most important symptoms and effects, both acute and delayed: No further relevant information available.

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing media - Suitable extinguishing media: Use fire-fighting measures that suit the environment.

Special hazards arising from the substance or mixture - No further relevant information available.

Advice for firefighters - Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Not required

Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires: No special measurements required.

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: None

Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

Occupational Exposure Limits: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls:

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages, and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Breathing equipment:

In case of brief exposure or low pollution, use respiratory filter device.

In case of intensive or longer exposure, use respiratory protective device that is independent of circulating air.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance:**Form:** Liquid**Color:** Magenta**Odor:** Characteristic**Odor threshold:** Not determined**pH:** Not determined**Melting point/freezing point:** Undetermined**Initial boiling point and boiling range:** Undetermined**Flash point:** Not applicable**Flammability (solid, gas):** Not applicable**Decomposition temperature:** Not determined**Auto igniting:** Product is not self-igniting**Danger of explosion:** Product does not present an explosion hazard**Upper/lower flammability or explosive limits:** Not determined**Vapor pressure:** Not determined**Density:** Not determined**Relative density:** Not determined**Vapor density:** Not determined**Evaporation rate:** Not determined**Susceptibility in / Miscibility with Water:** Not miscible or difficult to mix**Partition coefficient (n-octanol/water):** Not determined**Viscosity – Dynamic and Kinematic:** Not determined**Other information:** No further relevant information available.**10 Stability and reactivity****Reactivity:** No further relevant information available.**Chemical stability:****Thermal decomposition/conditions to be avoided:** No decomposition if used according to specifications.**Possibility of hazardous reactions:** No dangerous reactions known.**Conditions to avoid:** No further relevant information available.**Incompatible materials:** No further relevant information available.**Hazardous decomposition products:** No dangerous decomposition products known.**11 Toxicological information**

Information on toxicological effects**Acute toxicity:**

LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral LD50 612 - 621 mg/kg

86273-46-3 2-Propenoic acid, 2-[2-(ethenoxy)ethoxy]ethyl ester

Oral LD50 500 mg/kg (ATE)

71868-10-5 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one**Oral LD50 500 mg/kg (ATE)****Primary irritant effect:**

On the skin: No irritant effect.

On the eye: No irritating effect.

Sensitization: Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: Irritant

Carcinogenic categories**IARC (International Agency for Research on Cancer)**

119-61-9 benzophenone: 2B

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information**Toxicity:**

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Ecotoxicological effects: Harmful to fish

Additional ecological information:**General notes:**

Water hazard class 2 (Self-assessment): Hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13 Disposal considerations

Waste treatment methods:

Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging:

Recommendation: Disposal must be made according to official local regulations.

14 Transport information

UN Class/UN Number:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

UN proper shipping name:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Transport hazard class(es):

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Packing group:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Environmental hazards:

ADR/ADG/DOT, IMDG, or IATA : Not applicable

Special precautions for user:

Not applicable

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

UN "Model Regulation": Not Regulated

15 Regulatory information

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

Section 355 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

TSCA (Toxic Substances Control Act):

TSCA Section 5(a) - Chemicals with Significant New Use Rules (SNURs): 40 CFR 721.10064 - 2-propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester (CAS 86273-46-3)

TSCA Section 12(b) - Export Notification: 2-propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester (CAS 86273-46-3)

86273-46-3 2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester: ACTIVE

84170-74-1 Neopentylglycol(PO)2 Diacrylate: ACTIVE

75980-60-8 Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide: ACTIVE

162881-26-7 phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide: ACTIVE

71868-10-5 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one: ACTIVE

119313-12-1 2-benzyl-2-dimethylamino-4-morpholinobutyrophenone: ACTIVE

Hazardous Air Pollutants

None of the ingredients is listed.

Proposition 65

Chemicals known to cause cancer

119-61-9 benzophenone

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenic categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazardous pictograms



GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:

2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Neopentylglycol(PO)2 Diacrylate

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Hazard statements

Harmful if swallowed.
May cause an allergic skin reaction.
May damage fertility or the unborn child.

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If on skin: Wash with plenty of water.
If exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H360 May damage fertility or the unborn child.
H361 Suspected of damaging fertility or the unborn child.

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

Repr. 1A: Reproductive toxicity – Category 1A

Repr. 1B: Reproductive toxicity – Category 1B

Repr. 2: Reproductive toxicity – Category 2

*** Data compared to the previous version altered.**

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DGA does not warrant the completeness or accuracy of the information contained herein.

Safety Data Sheet

1 Identification

Product identifier

V-BOND Yellow Ink

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

Inkjet Printing

Details of the supplier of the safety data sheet

Manufacture's name: Roland DGA

Address: 15363 Barranca Parkway
Irvine, CA 92618

Phone: (949) 727-2100

Revision: April 16, 2021

2 Hazard(s) identification

Classification of the substance or mixture

This product is classified as dangerous according to GHS.

Acute toxicity (oral) 4: H302 Harmful if swallowed

Sensitivity – Skin 1: H317 May cause a mild allergic skin reaction

Eye Damage 1: H318 May cause serious eye damage

Reproductive toxicity 1A: H360 May damage fertility or the unborn child

GHS label elements, including precautionary statements



GHS05

GHS07

GHS08

Signal word: Danger

Hazard-determining components of labeling:

2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester

Dipropylene glycol diacrylate

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Hazard statements

Harmful if swallowed.

May cause an allergic skin reaction.

May damage fertility or the unborn child.

Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If swallowed: Call a poison center/doctor if you feel unwell.
 Rinse mouth.
 If on skin: Wash with plenty of water.
 If exposed or concerned: Get medical advice/attention.
 Specific treatment (see on this label).
 If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical nature: mixture

Description: Mixture of the substances listed below with nonhazardous additions

Dangerous Components:

CAS No.	Chemical Name	GHS Code	Content %
86273-46-3	2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester	H302, H317	≥ 50 - ≤ 100%
57472-68-1	Dipropylene glycol diacrylate	H315; H317; H318	≥ 2.5 - ≤ 10%
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	H361	≥ 2.5 - ≤ 10%
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	H317	≤ 2.5%
	Ethanol, 2-amino-, polymer with α-hydro-ω-[(1-oxo-2-propen-1-yl)oxy]poly(oxy-1,2-ethanediyl) ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1)	H315; H319	≤ 2.5%
71868-10-5	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	H302; H360	≥ 0 - ≤ 2.5%
119313-12-1	2-benzyl-2-dimethylamino-4-morpholinobutyrophenone	H360	≥ 0 - ≤ 2.5%

4 First-aid measures

Description of first aid measures

After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness, place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist, consult doctor.

Most important symptoms and effects, both acute and delayed: No further relevant information available.

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing media - Suitable extinguishing media: Use fire-fighting measures that suit the environment.

Special hazards arising from the substance or mixture - No further relevant information available.

Advice for firefighters - Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Not required

Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires: No special measurements required.

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: None

Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

Occupational Exposure Limits: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls:

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages, and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Breathing equipment:

In case of brief exposure or low pollution, use respiratory filter device.

In case of intensive or longer exposure, use respiratory protective device that is independent of circulating air.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several

substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance:

Form: Liquid

Color: Yellow

Odor: Characteristic

Odor threshold: Not determined

pH: Not determined

Melting point/freezing point: Undetermined

Initial boiling point and boiling range: Undetermined

Flash point: Not applicable

Flammability (solid, gas): Not applicable

Decomposition temperature: Not determined

Auto igniting: Product is not self-igniting

Danger of explosion: Product does not present an explosion hazard

Upper/lower flammability or explosive limits: Not determined

Vapor pressure: Not determined

Density: Not determined

Relative density: Not determined

Vapor density: Not determined

Evaporation rate: Not determined

Susceptibility in / Miscibility with Water: Not miscible or difficult to mix

Partition coefficient (n-octanol/water): Not determined

Viscosity – Dynamic and Kinematic: Not determined

Other information: No further relevant information available.

10 Stability and reactivity

Reactivity: No further relevant information available.

Chemical stability:

Thermal decomposition/conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral LD50 591 – 599 mg/kg

86273-46-3 2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester

Oral LD50 500 mg/kg (ATE)

71868-10-5 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one

Oral LD50 500 mg/kg (ATE)

Primary irritant effect:

On the skin: No irritant effect.

On the eye: No irritating effect.

Sensitization: Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)

119-61-9 benzophenone: 2B

100-41-4 ethylbenzene: 2B

127-19-5 N,N-dimethylacetamide: 2B

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Toxicity:

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Additional ecological information:**General notes:**

Water hazard class 2 (Self-assessment): Hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13 Disposal considerations**Waste treatment methods:**

Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging:

Recommendation: Disposal must be made according to official local regulations.

14 Transport information**UN Class/UN Number:**

ADR/ADG/DOT, IMDG, or IATA : Not regulated

UN proper shipping name:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Transport hazard class(es):

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Packing group:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Environmental hazards:

ADR/ADG/DOT, IMDG, or IATA : Not applicable

Special precautions for user:

Not applicable

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

UN "Model Regulation": Not Regulated

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the

substance or mixture SARA**Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

TSCA (Toxic Substances Control Act):

TSCA Section 5(a) - Chemicals with Significant New Use Rules (SNURs): 40 CFR 721.10064 - 2-propenoic acid, 2-[2-(ethenoxy)ethoxy]ethyl ester (CAS 86273-46-3)

TSCA Section 12(b) - Export Notification: 2-propenoic acid, 2-[2-(ethenoxy)ethoxy]ethyl ester (CAS 86273-46-3)

86273-46-3 2-Propenoic acid, 2-[2-(ethenoxy)ethoxy]ethyl ester: ACTIVE

57472-68-1 Dipropylene glycol diacrylate: ACTIVE

75980-60-8 Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide: ACTIVE

162881-26-7 phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide: ACTIVE

71868-10-5 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one: ACTIVE

119313-12-1 2-benzyl-2-dimethylamino-4-morpholinobutyrophenone: ACTIVE

Hazardous Air Pollutants

100-41-4

Proposition 65**Chemicals known to cause cancer**

119-61-9 benzophenone

100-41-4 ethylbenzene

127-19-5 N,N-dimethylacetamide

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

127-19-5 N,N-dimethylacetamide

Chemicals known to cause developmental toxicity:

127-19-5 N,N-dimethylacetamide

Carcinogenic categories**EPA (Environmental Protection Agency)**

100-41-4 ethylbenzene: D

TLV (Threshold Limit Value established by ACGIH)

100-41-4 ethylbenzene: A3

127-19-5 N,N-dimethylacetamide: A4

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazardous pictograms

GHS05 GHS07 GHS08

Signal word Danger**Hazard-determining components of labeling:**

2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester
Dipropylene glycol diacrylate
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Hazard statements

Harmful if swallowed.
May cause an allergic skin reaction.
May damage fertility or the unborn child.

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If on skin: Wash with plenty of water.
If exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.

H360 May damage fertility or the unborn child.

H361 Suspected of damaging fertility or the unborn child.

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

Repr. 1A: Reproductive toxicity – Category 1A

Repr. 1B: Reproductive toxicity – Category 1B

Repr. 2: Reproductive toxicity – Category 2

*** Data compared to the previous version altered.**

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Safety Data Sheet

1 Identification

Product identifier

V-BOND Black Ink

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

Inkjet Printing

Details of the supplier of the safety data sheet

Manufacture's name: Roland DGA

Address: 15363 Barranca Parkway
Irvine, CA 92618

Phone: (949) 727-2100

Revision: April 16, 2021

2 Hazard(s) identification

Classification of the substance or mixture

This product is classified as dangerous according to GHS.

Acute toxicity (oral) 4: H302 Harmful if swallowed

Sensitivity – Skin 1: H317 May cause an allergic skin reaction

Carcinogenic 2: H351 Suspected of causing cancer

Reproductive toxicity 1A: H360 May damage fertility or the unborn child

GHS label elements, including precautionary statements



GHS07 GHS08

Signal word: Danger

Hazard-determining components of labeling:

2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one

Hazard statements

Harmful if swallowed.

May cause an allergic skin reaction.

May damage fertility or the unborn child.

Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If swallowed: Call a poison center/doctor if you feel unwell.
 Rinse mouth.
 If on skin: Wash with plenty of water.
 If exposed or concerned: Get medical advice/attention.
 Specific treatment (see on this label).
 If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical nature: mixture

Description: Mixture of the substances listed below with nonhazardous additions

Dangerous Components:

CAS No.	Chemical Name	GHS Code	Content %
86273-46-3	2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester	H302; H317	≥ 50 - ≤ 100%
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	H361	≥ 2.5 - ≤ 10%
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	H317	≤ 2.5%
	Ethanol, 2-amino-, polymer with α -hydro- ω -[(1-oxo-2-propen-1-yl)oxy]poly(oxy-1,2-ethanediyl) ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1)	H315; H319	≤ 2.5%
1333-86-4	Carbon black	H252; H351	≥ 0 - ≤ 2.5%
71868-10-5	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	H302; H360	≥ 0 - ≤ 2.5%
119313-12-1	2-benzyl-2-dimethylamino-4-morpholinobutyrophenone	H360	≥ 0 - ≤ 2.5%
119-61-9	Benzophenone	H351	≥ 0 - ≤ 2.5%

4 First-aid measures

Description of first aid measures

After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness, place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist, consult doctor.

Most important symptoms and effects, both acute and delayed: No further relevant information available.

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing media - Suitable extinguishing media: Use fire-fighting measures that suit the environment.

Special hazards arising from the substance or mixture - No further relevant information available.

Advice for firefighters - Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Not required

Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires: No special measurements required.

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: None

Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

Occupational Exposure Limits:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

1333-86-4 Carbon black

PEL Long-term value: 3.5 mg/m³

REL Long-term value: 3.5* mg/m³

*0.1 in presence of PAHs; See Pocket Guide Apps.A+C

TLV Long-term value: 3* mg/m³

*inhalable fraction

119-61-9 benzophenone

WEEL Long-term value: 0.5 mg/m³

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls:

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages, and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Breathing equipment:

In case of brief exposure or low pollution, use respiratory filter device.

In case of intensive or longer exposure, use respiratory protective device that is independent of circulating air.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance:

Form: Liquid

Color: Black

Odor: Characteristic

Odor threshold: Not determined

pH: Not determined

Melting point/freezing point: Undetermined

Initial boiling point and boiling range: Undetermined

Flash point: Not applicable

Flammability (solid, gas): Not applicable

Decomposition temperature: Not determined

Auto igniting: Product is not self-igniting

Danger of explosion: Product does not present an explosion hazard

Upper/lower flammability or explosive limits: Not determined

Vapor pressure: Not determined

Density: Not determined

Relative density: Not determined

Vapor density: Not determined

Evaporation rate: Not determined

Susceptibility in / Miscibility with Water: Not miscible or difficult to mix

Partition coefficient (n-octanol/water): Not determined

Viscosity – Dynamic and Kinematic: Not determined

Other information: No further relevant information available.

10 Stability and reactivity

Reactivity: No further relevant information available.

Chemical stability:

Thermal decomposition/conditions to be avoided: No decomposition if used according to

specifications.

Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral LD50 > 592 – 603 mg/kg

86273-46-3 2-Propenoic acid, 2-[2-(ethenoxy)ethoxy]ethyl ester

Oral LD50 500 mg/kg (ATE)

1333-86-4 Carbon black

Oral LD50 10,000 mg/kg (rat)

71868-10-5 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one

Oral LD50 500 mg/kg (ATE)

119-61-9 benzophenone

Oral LD50 > 10,000 mg/kg (rat)

Dermal LD50 3,535 mg/kg (rabbit)

Primary irritant effect:

On the skin: No irritant effect.

On the eye: No irritating effect.

Sensitization: Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)

1333-86-4 Carbon black: 2B

119-61-9 benzophenone: 2B

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Toxicity:

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Ecotoxicological effects: Harmful to fish

Additional ecological information:

General notes:

Water hazard class 2 (Self-assessment): Hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13 Disposal considerations

Waste treatment methods:

Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging:

Recommendation: Disposal must be made according to official local regulations.

14 Transport information

UN Class/UN Number:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

UN proper shipping name:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Transport hazard class(es):

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Packing group:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Environmental hazards:

ADR/ADG/DOT, IMDG, or IATA : Not applicable

Special precautions for user:

Not applicable

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

UN "Model Regulation": Not Regulated

15 Regulatory information

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

Section 355 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

TSCA (Toxic Substances Control Act):

TSCA Section 5(a) - Chemicals with Significant New Use Rules (SNURs): 40 CFR 721.10064 - 2-propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester (CAS 86273-46-3)

TSCA Section 12(b) - Export Notification: 2-propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester (CAS 86273-46-3)

86273-46-3 2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester: ACTIVE

75980-60-8 Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide: ACTIVE

162881-26-7 phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide: ACTIVE

1333-86-4 Carbon black: ACTIVE

71868-10-5 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one: ACTIVE

119313-12-1 2-benzyl-2-dimethylamino-4-morpholinobutyrophenone: ACTIVE

119-61-9 benzophenone: ACTIVE

Hazardous Air Pollutants

None of the ingredients is listed.

Proposition 65

Chemicals known to cause cancer

1333-86-4 Carbon black

119-61-9 benzophenone

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenic categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)

1333-86-4 Carbon black: A4

NIOSH-Ca (National Institute for Occupational Safety and Health)

1333-86-4 Carbon black

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazardous pictograms

GHS07 GHS08

Signal word Danger**Hazard-determining components of labeling:**

2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester
 Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
 phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide
 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one

Hazard statements

Harmful if swallowed.
 May cause an allergic skin reaction.
 May damage fertility or the unborn child.

Precautionary statements

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Avoid breathing dust/fume/gas/mist/vapors/spray.
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If swallowed: Call a poison center/doctor if you feel unwell.
 Rinse mouth.
 If on skin: Wash with plenty of water.
 If exposed or concerned: Get medical advice/attention.
 Specific treatment (see on this label).
 If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H252 Self-heating in large quantities; may catch fire.
 H302 Harmful if swallowed.

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H361 Suspected of damaging fertility or the unborn child.

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Repr. 1A: Reproductive toxicity – Category 1A
Repr. 1B: Reproductive toxicity – Category 1B
Repr. 2: Reproductive toxicity – Category 2

* **Data compared to the previous version altered.**

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DGA does not warrant the completeness or accuracy of the information contained herein.

Safety Data Sheet

1 Identification

Product identifier

V-BOND Yellow Ink

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

Inkjet Printing

Details of the supplier of the safety data sheet

Manufacture's name: Roland DGA

Address: 15363 Barranca Parkway
Irvine, CA 92618

Phone: (949) 727-2100

Revision: April 16, 2021

2 Hazard(s) identification

Classification of the substance or mixture

This product is classified as dangerous according to GHS.

Acute toxicity (oral) 4: H302 Harmful if swallowed

Sensitivity – Skin 1: H317 May cause a mild allergic skin reaction

Reproductive toxicity 2: H361 Suspected of damaging fertility or the unborn child

GHS label elements, including precautionary statements



GHS07 GHS08

Signal word: Danger

Hazard-determining components of labeling:

2-Propenoic acid, 2-[2-(ethenoxy)ethoxy]ethyl ester
photoinitiator

propylidynetrimethanol, ethoxylated, esters with acrylic acid

Hazard statements

Harmful if swallowed.

May cause an allergic skin reaction.

May damage fertility or the unborn child.

Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Call a poison center/doctor if you feel unwell.

Rinse mouth.

If on skin: Wash with plenty of water.

If exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical nature: mixture

Description: Mixture of the substances listed below with nonhazardous additions

Dangerous Components:

CAS No.	Chemical Name	GHS Code	Content %
86273-46-3	2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester	H302, H317	≥ 50 - ≤ 100%
	photoinitiator	H361	≥ 2.5 - ≤ 10%
	Ethanol, 2-amino-, polymer with α -hydro- ω -[(1-oxo-2-propen-1-yl)oxy]poly(oxy-1,2-ethanediyl) ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1)	H315; H319	≥ 2.5% - ≤ 10%
28961-43-5	5 propylidynetrimethanol, ethoxylated, esters with acrylic acid	H317; H319	≥ 0 - ≤ 2.5%

4 First-aid measures

Description of first aid measures

After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness, place patient stably in side position for transportation.

After skin contact: Generally, the product does not irritate the skin.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist, consult doctor.

Most important symptoms and effects, both acute and delayed: No further relevant information available.

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing media - Suitable extinguishing media: Use fire-fighting measures that suit the environment.

Special hazards arising from the substance or mixture - No further relevant information available.

Advice for firefighters - Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Not required

Environmental precautions:

Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

Reference to other sections:

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Information about protection against explosions and fires: No special measurements required.

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: None

Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

Occupational Exposure Limits: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls:

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages, and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Breathing equipment:

In case of brief exposure or low pollution, use respiratory filter device.

In case of intensive or longer exposure, use respiratory protective device that is independent of circulating air.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance:

Form: Liquid

Color: Clear

Odor: Characteristic

Odor threshold: Not determined

pH: Not determined
Melting point/freezing point: Undetermined
Initial boiling point and boiling range: Undetermined
Flash point: Not applicable
Flammability (solid, gas): Not applicable
Decomposition temperature: Not determined
Auto igniting: Product is not self-igniting
Danger of explosion: Product does not present an explosion hazard
Upper/lower flammability or explosive limits: Not determined
Vapor pressure: Not determined
Density: Not determined
Relative density: Not determined
Vapor density: Not determined
Evaporation rate: Not determined
Susceptibility in / Miscibility with Water: Not miscible or difficult to mix
Partition coefficient (n-octanol/water): Not determined
Viscosity – Dynamic and Kinematic: Not determined

Other information: No further relevant information available.

10 Stability and reactivity

Reactivity: No further relevant information available.

Chemical stability:

Thermal decomposition/conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

Primary irritant effect:

On the skin: No irritant effect.

On the eye: No irritating effect.

Sensitization: Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: Irritant

Carcinogenic categories**IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information**Toxicity:**

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Additional ecological information:**General notes:**

Water hazard class 2 (Self-assessment): Hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13 Disposal considerations**Waste treatment methods:**

Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging:

Recommendation: Disposal must be made according to official local regulations.

14 Transport information**UN Class/UN Number:**

ADR/ADG/DOT, IMDG, or IATA : Not regulated

UN proper shipping name:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Transport hazard class(es):

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Packing group:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Environmental hazards:

ADR/ADG/DOT, IMDG, or IATA : Not applicable

Special precautions for user:

Not applicable

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

UN “Model Regulation”: Not Regulated

15 Regulatory information

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

Section 355 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

TSCA (Toxic Substances Control Act):

TSCA Section 5(a) - Chemicals with Significant New Use Rules (SNURs): 40 CFR 721.10064 - 2-propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester (CAS 86273-46-3)

TSCA Section 12(b) - Export Notification: 2-propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester (CAS 86273-46-3)

86273-46-3 2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester: ACTIVE

75980-60-8 Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide: ACTIVE

Hazardous Air Pollutants

None of the ingredients is listed.

Proposition 65

Chemicals known to cause cancer

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenic categories**EPA (Environmental Protection Agency)**

None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazardous pictograms

GHS07 GHS08

Signal word Danger**Hazard-determining components of labeling:**

2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester
photoinitiator
propylidynetrimethanol, ethoxylated, esters with acrylic acid

Hazard statements

Harmful if swallowed.
May cause an allergic skin reaction.
May damage fertility or the unborn child.

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If on skin: Wash with plenty of water.
If exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H302 Harmful if swallowed.

H315 May cause an allergic skin reaction.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H361 Suspected of damaging fertility or the unborn child.

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

Repr. 1A: Reproductive toxicity – Category 1A

Repr. 1B: Reproductive toxicity – Category 1B

Repr. 2: Reproductive toxicity – Category 2

* **Data compared to the previous version altered.**

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DGA does not warrant the completeness or accuracy of the information contained herein.

Safety Data Sheet

1 Identification

Product identifier

V-BOND Yellow Ink

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

Inkjet Printing

Details of the supplier of the safety data sheet

Manufacture's name: Roland DGA

Address: 15363 Barranca Parkway
Irvine, CA 92618

Phone: (949) 727-2100

Revision: April 16, 2021

2 Hazard(s) identification

Classification of the substance or mixture

This product is classified as dangerous according to GHS.

Acute toxicity (oral) 4: H302 Harmful if swallowed

Sensitivity – Skin 1: H317 May cause a mild allergic skin reaction

Reproductive toxicity 2: H361 Suspected of damaging fertility or the unborn child

GHS label elements, including precautionary statements



GHS07 GHS08

Signal word: Danger

Hazard-determining components of labeling:

2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester

Dipropylene glycol diacrylate

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Hazard statements

Harmful if swallowed.

May cause an allergic skin reaction.

May damage fertility or the unborn child.

Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If swallowed: Call a poison center/doctor if you feel unwell.
 Rinse mouth.
 If on skin: Wash with plenty of water.
 If exposed or concerned: Get medical advice/attention.
 Specific treatment (see on this label).
 If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

4.2% of the mixture consists of component(s) of unknown toxicity.

3 Composition/information on ingredients

Chemical nature: mixture

Description: Mixture of the substances listed below with nonhazardous additions

Dangerous Components:

CAS No.	Chemical Name	GHS Code	Content %
86273-46-3	2-Propenoic acid, 2-[2-(ethenoxy) ethoxy]ethyl ester	H302, H317	≥ 50 - ≤ 100%
13463-67-7	Titanium dioxide	H351	≥ 2.5 - ≤ 25%
84170-74-1	Neopentylglycol(PO) ₂ Diacrylate	H317	≥ 0 - ≤ 10%
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl) phosphine oxide	H361	≥ 2.5 - ≤ 10%
	Ethanol, 2-amino-, polymer with α-hydro-ω-[(1-oxo-2-propen-1-yl)oxy]poly(oxy-1,2-ethanediyl) ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1)	H315; H319	≤ 2.5%

4 First-aid measures**Description of first aid measures****After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness, place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist, consult doctor.

Most important symptoms and effects, both acute and delayed: No further relevant information available.

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

Extinguishing media - Suitable extinguishing media: Use fire-fighting measures that suit the environment.

Special hazards arising from the substance or mixture - No further relevant information available.

Advice for firefighters - Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Not required

Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires: No special measurements required.

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: None

Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

Occupational Exposure Limits: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls:**Personal protective equipment:****General protective and hygienic measures:**

Keep away from foodstuffs, beverages, and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Breathing equipment:

In case of brief exposure or low pollution, use respiratory filter device.

In case of intensive or longer exposure, use respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance:

Form: Liquid

Color: White

Odor: Characteristic

Odor threshold: Not determined

pH: Not determined

Melting point/freezing point: Undetermined

Initial boiling point and boiling range: Undetermined

Flash point: > 100 °C (> 212 °F)

Flammability (solid, gas): Not applicable

Decomposition temperature: Not determined

Auto igniting: Product is not self-igniting

Danger of explosion: Product does not present an explosion hazard

Upper/lower flammability or explosive limits: Not determined

Vapor pressure: Not determined

Density: Not determined

Relative density: Not determined

Vapor density: Not determined

Evaporation rate: Not determined

Susceptibility in / Miscibility with Water: Fully miscible

Partition coefficient (n-octanol/water): Not determined

Viscosity – Dynamic and Kinematic: Not determined

Other information: No further relevant information available.

10 Stability and reactivity

Reactivity: No further relevant information available.

Chemical stability:

Thermal decomposition/conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral LD50 616 – 625 mg/kg

86273-46-3 2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester

Oral LD50 500 mg/kg (ATE)

13463-67-7 titanium dioxide

Oral LD50 > 20,000 mg/kg (rat)

Dermal LD50 > 10,000 mg/kg (rabbit)

Inhalative LC50/4 h mg/l (rat)

Primary irritant effect:

On the skin: No irritant effect.

On the eye: No irritating effect.

Sensitization: Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)

13463-67-7 titanium dioxide: 2B

100-41-4 ethylbenzene: 2B

127-19-5 N,N-dimethylacetamide: 2B

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Toxicity:

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Ecotoxicological effects: Harmful to fish

Additional ecological information:

General notes:

Water hazard class 2 (Self-assessment): Hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13 Disposal considerations

Waste treatment methods:

Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging:

Recommendation: Disposal must be made according to official local regulations.

14 Transport information

UN Class/UN Number:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

UN proper shipping name:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Transport hazard class(es):

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Packing group:

ADR/ADG/DOT, IMDG, or IATA : Not regulated

Environmental hazards:

ADR/ADG/DOT, IMDG, or IATA : Not applicable

Special precautions for user:

Not applicable

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

UN "Model Regulation": Not Regulated

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the

substance or mixture SARA**Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

TSCA (Toxic Substances Control Act):

TSCA Section 5(a) - Chemicals with Significant New Use Rules (SNURs): 40 CFR 721.10064 - 2-propenoic acid, 2-[2-(ethenoxy)ethoxy]ethyl ester (CAS 86273-46-3)

TSCA Section 12(b) - Export Notification: 2-propenoic acid, 2-[2-(ethenoxy)ethoxy]ethyl ester (CAS 86273-46-3)

86273-46-3 2-Propenoic acid, 2-[2-(ethenoxy)ethoxy]ethyl ester: ACTIVE

13463-67-7 titanium dioxide: ACTIVE

84170-74-1 Neopentylglycol(PO)₂ Diacrylate: ACTIVE

75980-60-8 Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide: ACTIVE

Hazardous Air Pollutants

100-41-4

Proposition 65**Chemicals known to cause cancer**

13463-67-7 titanium dioxide

100-41-4 ethylbenzene

127-19-5 N,N-dimethylacetamide

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

127-19-5 N,N-dimethylacetamide

Chemicals known to cause developmental toxicity:

127-19-5 N,N-dimethylacetamide

Carcinogenic categories**EPA (Environmental Protection Agency)**

100-41-4 ethylbenzene: D

TLV (Threshold Limit Value established by ACGIH)

13463-67-7 titanium dioxide

100-41-4 ethylbenzene: A3

127-19-5 N,N-dimethylacetamide: A4

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazardous pictograms

Signal word Danger



GHS07 GHS08

Hazard-determining components of labeling:

2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
Neopentylglycol(PO)₂ Diacrylate

Hazard statements

Harmful if swallowed.
May cause an allergic skin reaction.
May damage fertility or the unborn child.

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If on skin: Wash with plenty of water.
If exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H302 Harmful if swallowed. H315 Causes skin irritation.
H315 Causes skin irritation
H317 May cause an allergic skin reaction. H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation

IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Repr. 1A: Reproductive toxicity – Category 1A
Repr. 1B: Reproductive toxicity – Category 1B
Repr. 2: Reproductive toxicity – Category 2

*** Data compared to the previous version altered.**

The information in this Safety Data Sheet (SDS) is believed to be correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is subject to revision as additional knowledge and experience is gained. Roland DGA does not warrant the completeness or accuracy of the information contained herein.