Sample Description:

The sample information was submitted and identified on client's behalf to be:

Product Name : Alcohol Based Inks

Physical State :

Data Received :

Data Reviewed :

Liquid

Jan 13, 2017

Jan 20, 2017

Service Requested:

Based on the information provided by the applicant, the Safety Data Sheet (SDS) was generated in accordance with requirements of Regulation

(EC) No1907/2006, Regulation (EC) No 2015/830, Regulation (EC) No 1272/2008, for details please refer to attached pages.

Authorized By: On Behalf Of Regulatory Affairs in Intertek Testing Services Ltd., Shanghai

Anna Wang Regulatory Consultant

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Intertek Testing Services Ltd., Shanghai

Alcohol Based Ink

Version No:1.0 Safety Data Sheet (Conforms to Regulation (EC) No 1907/2006 and Regulation (EC) No 2015/830)

Issue Date:20/01/2017 S.REACH.GBR.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product Identifier

Product name Alcohol Based Inks

Synonyms Not Available

Proper shipping name FLAMMABLE LIQUID, N.O.S. (1-methoxy-2-propanol and ethanol)

Other means of identification

PMK-8820B

Product color number and name

Red Yellow Light Blue Dark Blue Light Green Dark Green Pink Orange Brown Light Grey Dark Grey Black

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

Relevant identified uses Art, Coloring and Crafting.

Uses advised against Not Applicable

Importer name: Momenta Inc

Address: 601 Islington St. Portsmouth, NH 03801

Telephone 800.565.6160

Email info@momenta.com

1.4. Emergency telephone number

Association / Organisation

Emergency telephone numbers

SECTION 2 HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Considered a hazardous mixture according to Reg. (EC) No 1272/2008 and their amendments. Classified as Dangerous Goods for transport purposes.

Classification according to regulation (EC) No 1272/2008 [CLP]

Skin Sensitizer Category 1, Serious Eye Damage Category 1, Respiratory Sensitizer Category 1, Specific target organ toxicity - single exposure Category 3(narcotic effects), Chronic Aquatic Hazard Category 3, Flammable Liquid Category 2

2.2. Label elements

Continued...

SIGNAL WORD DANGER

Hazard statement(s)

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H336 May cause drowsiness or dizziness.

H412 Harmful to aquatic life with long lasting effects.

H225 Highly flammable liquid and vapour.

Supplementary statement(s)

Not Applicable

CLP classification (additional)

Not Applicable

Precautionary statement(s) Prevention

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Precautionary statement(s) Response

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor/physician/first aider.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician/first aider.

Precautionary statement(s) Storage

P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

Precautionary statement(s) Disposal

P501 Dispose of contents/container in accordance with local regulations.

2.3. Other hazards

REACh - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

3.1.Substances

See 'Composition on ingredients' in Section 3.2

3.2.Mixtures

1.CAS No 2.EC No 3.Index No 4.REACH No

%[weight] Name Classification according to regulation (EC) No 1272/2008 [CLP]

1.64-17-5 2.200-578-6 3.603-002-00-5 4.Not Available

58.94-70 Flammable Liquid Category 2; H225

1.107-98-2 2.203-539-1 3.603-064-00-3 4.Not Available

ethanol

20

1-methoxy-2-propanol

Specific target organ toxicity - single exposure Category 3(narcotic effects), Flammable Liquid Category 3; H336, H226

CLP label elements

Continued...

1.61901-87-9 2.Not Available 3.Not Available 4.Not Available

0-11.06 Skin Sensitizer Category 1, Respiratory Sensitizer Category 1; H317, H334

1.8050-09-7 2.232-475-7 3.650-015-00-7 4.Not Available

10 Skin Sensitizer Category 1; H317

1.61901-92-6 2.Not Available 3.Not Available 4.Not Available

0-6.7 Not Applicable

1.61116-28-7 2.Not Available 3.Not Available 4.Not Available

0-6.4 Not Applicable

1.61725-69-7 2.276-657-4 3.Not Available 4.Not Available

0-5.3 Not Applicable

1.1325-86-6 2.215-409-1 3.Not Available 4.Not Available

0-5 Not Applicable

1.12237-31-9 2.Not Available 3.Not Available 4.Not Available

0-4.6 Not Applicable

1.12227-67-7 2.Not Available 3.Not Available 4.Not Available

0-4.5 Not Applicable

1.52256-37-8 2.257-789-1 3.Not Available 4.Not Available

0-3.65 Not Applicable

1.82347-07-7 2.Not Available 3.Not Available 4.Not Available

0-3.5 Not Applicable

1.94765-62-5 2.Not Available 3.Not Available 4.Not Available

0-3.36 Not Applicable

1.12220-53-0 2.Not Available 3.Not Available 4.Not Available

0-3.03 Not Applicable

1.6358-36-7 2.228-770-5 3.Not Available 4.Not Available

0-3 Serious Eye Damage Category 1, Chronic Aquatic Hazard Category 2; H318, H411

1.37229-23-5 2.245-728-1 3.Not Available 4.Not Available

0-2.7 Not Applicable

1.6320-14-5 2.228-668-0 3.Not Available 4.Not Available

0-2.15 Not Applicable

SECTION 4 FIRST AID MEASURES

4.1. Description of first aid measures

General

If skin contact occurs:

Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

If this product comes in contact with the eyes:

Immediately hold eyelids apart and flush the eye continuously with running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.

c.i. solvent black 29

rosin-colophony

C.I. Solvent Red 91

c.i. solvent brown 43

C.I. Solvent Blue 44

c.i. solvent blue 5

c.i. solvent yellow 79

C.I. Solvent Yellow 82

C.I. Acid Orange 92

C.I. Solvent Red 218

C.I. Solvent Black 45

C.I. Acid Violet 66

c.i. basic yellow 37, monohydrochloride

C.I. Solvent Blue 45

c.i. basic red 12

Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Continued...

Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

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

Treat symptomatically.

For acute or short term repeated exposures to ethanol:

Acute ingestion in non-tolerant patients usually responds to supportive care with special attention to prevention of aspiration, replacement of fluid and correction of nutritional deficiencies (magnesium, thiamine pyridoxine, Vitamins C and K). Give 50% dextrose (50-100 ml) IV to obtunded patients following blood draw for glucose determination. Comatose patients should be treated with initial attention to airway, breathing, circulation and drugs of immediate importance (glucose, thiamine). Decontamination is probably unnecessary more than 1 hour after a single observed ingestion. Cathartics and charcoal may be given but are probably not effective in single ingestions. Fructose administration is contra-indicated due to side effects.

SECTION 5 FIREFIGHTING MEASURES

5.1. Extinguishing media

Alcohol stable foam. Dry chemical powder. BCF (where regulations permit). Carbon dioxide. Water spray or fog - Large fires only.

5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

5.3. Advice for firefighters

Fire Fighting

Liquid and vapour are highly flammable. Severe fire hazard when exposed to heat, flame and/or oxidisers. Vapour may travel a considerable distance to source of ignition. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO). Combustion products include: carbon dioxide (CO_2) nitrogen oxides (NO_x) other pyrolysis products typical of burning organic material.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

Minor Spills

Environmental hazard - contain spillage.

Alert Fire Brigade and tell them location and nature of hazard. May be violently or explosively reactive. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water course.

Fire/Explosion Hazard

If this product comes in contact with the eyes:

Immediately hold eyelids apart and flush the eye continuously with running water. Eye Contact

Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact

Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb small quantities with vermiculite or other absorbent material.

Major Spills

Environmental hazard - contain spillage. CARE: Absorbent materials wetted with occluded oil must be moistened with water as they may auto-oxidize, become self heating and ignite. Some oils slowly oxidise when spread in a film and oil on cloths, mops, absorbents may autoxidise and generate heat, smoulder, ignite and burn. In the workplace oily rags should be collected and immersed in water.

If skin contact occurs:

Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

Inhalation

If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.

Ingestion

Continued...

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling

Store in original containers in approved flame-proof area. No smoking, naked lights, heat or ignition sources. DO NOT store in pits, depressions, basements or areas where vapours may be trapped. Keep containers securely sealed.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container

Avoid strong bases.

7.3. Specific end use(s)

See section 1.2

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

DERIVED NO EFFECT LEVEL (DNEL)

Not Available

PREDICTED NO EFFECT LEVEL (PNEC)

Not Available

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source Ingredient Material name TWA STEL Peak Notes

UK Workplace Exposure Limits (WELs)

ethanol Ethanol 1920 mg/m3 / 1000 ppm Not Available Not Available Not Available

UK Workplace Exposure Limits (WELs)

1-methoxy-2-propanol 1-Methoxypropan-2-ol 375 mg/m3 / 100 ppm 560 mg/m3 / 150 ppm Not Available Sk

European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs) (English)

1-methoxy-2-propanol 1-Methoxypropanol-2 375 mg/m3 / 100 ppm 568 mg/m3 / 150 ppm Not Available Skin

EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)

1-methoxy-2-propanol 1-Methoxypropan-2-ol 375 mg/m3 / 100 ppm 568 mg/m3 / 150 ppm Not Available Skin

UK Workplace Exposure Limits (WELs)

rosin-colophony Rosin-based solderflux fume 0.05 mg/m3 0.15 mg/m3 Not Available Sen

EMERGENCY LIMITS

Ingredient Material name TEEL-1 TEEL-2 TEEL-3

1-methoxy-2-propanol Propylene glycol monomethyl ether; (Ucar Triol HG-170) 100 ppm 160 ppm 660 ppm

rosin-colophony Rosin core solder decomposition products; (Colophony Gum) 72 mg/m3 790 mg/m3 1,500 mg/m3

Ingredient Original IDLH Revised IDLH

ethanol 15,000 ppm 3,300 [LEL] ppm

Cardboard box. Plastic containers may only be used if approved for flammable liquid. Check that containers are clearly labelled and free from leaks.

Storage incompatibility

Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps.

Fire and explosion protection

See section 5

Other information

HAZARD:

Although anti-oxidants may be present, in the original formulation, these may deplete over time as they come into contact with air. Rags wet / soaked with unsaturated hydrocarbons / drying oils may auto-oxidise; generate heat and, in-time, smoulder and ignite. This is especially the case where oil-soaked materials are folded, bunched, compressed, or piled together - this allows the heat to accumulate or even accelerate the reaction Oily cleaning rags should be collected regularly and immersed in water, or spread to dry in safe-place away from direct sunlight.or stored, immersed, in solvents in suitably closed containers.

Avoid oxidising agents, acids, acid chlorides, acid anhydrides, chloroformates.

Containers, even those that have been emptied, may contain explosive vapours. Do NOT cut, drill, grind, weld or perform similar operations on or near containers.

Continued...

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Overalls. PVC Apron. PVC protective suit may be required if exposure severe. Eyewash unit. Ensure there is ready access to a safety shower.

· Some plastic personal protective equipment (PPE) (e.g. gloves,aprons, overshoes) are not recommended as they may produce static electricity.

· For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).

· Non sparking safety or conductive footwear should be considered.Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds.

Thermal hazards Not Available

Respiratory protection

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

8.2.3. Environmental exposure controls

See section 12

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance Liquid

Physical state Liquid Relative density (Water = 1) Not Available

Odour Low odor

Partition coefficient n-octanol / water

Not Available

Odour threshold Not Available

Auto-ignition temperature (°C)

Not Available

pH (as supplied) Not Available

Decomposition temperature

Not Available

Melting point / freezing point (°C)

Not Available Viscosity (cSt) Not Available

Initial boiling point and boiling range (°C)

Not Available Molecular weight (g/mol) Not Available

Flash point (°C) Not Available Taste Not Available

Evaporation rate Not Available Explosive properties Not Available

Flammability Flammable Oxidising properties Not Available

Upper Explosive Limit (%) Not Available

Surface Tension (dyn/cm or mN/m)

Not Available

Lower Explosive Limit (%) Not Available Volatile Component (%vol) Not Available

Vapour pressure (kPa) Not Available Gas group Not Available

Solubility in water (g/L) Not Available pH as a solution (1%) Not Available

Vapour density (Air = 1) Not Available VOC g/L Not Available

Care: Atmospheres in bulk storages and even apparently empty tanks may be hazardous by oxygen depletion. Atmosphere must be checked before entry.

Requirements of State Authorities concerning conditions for tank entry must be met. Particularly with regard to training of crews for tank entry; work permits; sampling of atmosphere; provision of rescue harness and protective gear as needed Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard 'physically' away from the worker and ventilation that strategically 'adds' and 'removes' air in the work environment.

8.2.2. Personal protection

Safety glasses with side shields.

Eye and face protection

Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

Skin protection See Hand protection below

Hands/feet protection

NOTE:

The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

Body protection See Other protection below

Other protection

Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber

Continued...

9.2. Other information

Not Available

SECTION 10 STABILITY AND REACTIVITY

10.1.Reactivity See section 7.2

10.2. Chemical stability

Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.

10.3. Possibility of hazardous reactions

See section 7.2

10.4. Conditions to avoid See section 7.2

10.5. Incompatible materials See section 7.2

10.6. Hazardous decomposition products

See section 5.3

SECTION 11 TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Inhaled

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.

Ingestion

Ingestion of ethanol (ethyl alcohol, 'alcohol') may produce nausea, vomiting, bleeding from the digestive tract, abdominal pain, and diarrhoea. Effects on the body:

Blood concentration Effects

<1.5 g/L

Mild: impaired vision, coordination and reaction time; emotional instability

1.5-3.0 g/L

Moderate: Slurred speech, confusion, incoordination, emotional instability, disturbances in perception and senses, possible blackouts, and impaired objective performance in standardized tests. Possible double vision, flushing, fast heart rate, sweating and incontinence. Slow breathing may occur rarely and fast breathing may develop in cases of metabolic acidosis, low blood sugar and low blood potassium. Central nervous system depression may progress to coma.

3-5 g/L

Severe: cold clammy skin, low body temperature and low blood pressure. Atrial fibrillation and heart block have been reported. Depression of breathing may occur, respiratory failure may follow serious poisoning, choking on vomit may result in lung inflammation and swelling. Convulsions due to severe low blood sugar may also occur. Acute liver inflammation may develop.

The material has NOT been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence. Terpenes and their oxygen-containing

counterparts, the terpenoids, produce a variety of effects. Pine oil monoterpenes, for example, produce stomach inflammation with bleeding, characterised by stomach pain and vomiting.

Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.

Skin Contact

The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Older pine oils will likely cause skin irritation. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Eye

If applied to the eyes, this material causes severe eye damage. Eye drops with sulfonamides can cause local irritation, sensations of burning and stinging, blurred vision and loss of depth perception. The conjunctiva and cornea may become inflamed, and the cornea and lens may become clouded.

Chronic

Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Studies done on experimental animals show that anthraquinones can cause cancer (especially of the liver and urinary bladder) and abnormal genetic changes. Essential oils and isolates derived from the Pinacea family, including the genera Pinus and Abies, should only be used when the level of peroxides is kept to the lowest practicable level (less than 10 millimoles per litre).

Continued...

There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. Prolonged exposure to ethanol may cause damage to the liver and cause scarring. It may also worsen damage caused by other agents.

Alcohol Based Ink

TOXICITY Not Available IRRITATION Not Available

ethanol

TOXICITY IRRITATION

Dermal (rabbit) LD50: 17100 mg/kg

[1]

Eye (rabbit): 500 mg SEVERE

Inhalation (rat) LC50: 64000 ppm/4hr

[2]

Eye (rabbit):100mg/24hr-moderate

Oral (rat) LD50: >1187-2769 mg/kg

[1]

Skin (rabbit):20 mg/24hr-moderate

Skin (rabbit):400 mg (open)-mild

1-methoxy-2-propanol

TOXICITY IRRITATION

Dermal (rabbit) LD50: 13000 mg/kg

[2]

Eye (rabbit) 230 mg mild

Inhalation (rat) LC50: 10000 ppm/5 h.

[2]

Eye (rabbit) 500 mg/24 h. - mild

Oral (rat) LD50: 3739 mg/kg

[2]

Skin (rabbit) 500 mg open - mild

c.i. solvent black 29

TOXICITY IRRITATION

Oral (Rat) LD50: >5000 mg/kg *

[2]

(Primary Irritation Index 0.2)

Eye (rabbit): mild **

Eye (rabbit):non-irritant (OECD 405)*

Skin (rabbit): mild **

Skin (rabbit):non-irritant (OECD 404)*

rosin-colophony

TOXICITY IRRITATION

dermal (rat) LD50: >2000 mg/kg

[1]

Not Available

Oral (rat) LD50: 3.0 mg/kg

[2]

c.i. solvent brown 43

TOXICITY IRRITATION

Oral (Rat) LD50: >2000 mg/kg *

[2]

Eye (rabbit): non-irritating *

Skin (rabbit): non-irritating *

C.I. Solvent Blue 44

TOXICITY IRRITATION

Oral (rat) LD50: >2000 mg/kg

[2]

Not Available

c.i. solvent yellow 79

TOXICITY IRRITATION

Oral (Rat) LD50: >5000 mg/kg *

[2]

Eye (rabbit): irritant *

Skin (rabbit): non-irritating *

C.I. Solvent Yellow 82

TOXICITY IRRITATION

Oral (rat) LD50: >10000 mg/kg

[2]

Eye (rabbit): non-irritating *

Skin (rabbit): non-irritating *

c.i. basic yellow 37, monohydrochloride

TOXICITY IRRITATION

Oral (rat) LD50: 3160 mg/kg

[2]

Not Available

C.I. Solvent Blue 45

TOXICITY IRRITATION

Oral (rat) LD50: >10000 mg/kg

[2]

Eye (rabbit): non-irritating *

Skin (rabbit): non-irritating *

c.i. basic red 12

TOXICITY IRRITATION

Oral (Rat) LD50: 18 mg/kg

[2]

Not Available

Continued...

SECTION 12 ECOLOGICAL INFORMATION

12.1. Toxicity

Ingredient Endpoint Test Duration (hr) Species Value Source

ethanol LC50 96 Fish 42mg/L 4

ethanol EC50 48 Crustacea 2mg/L 4

ethanol EC50 96 Algae or other aquatic plants 17.921mg/L 4

ethanol EC50 24 Algae or other aquatic plants 0.0129024mg/L 4

ethanol NOEC 2016 Fish 0.000375mg/L 4

1-methoxy-2-propanol LC50 96 Fish 1005.858mg/L 3

1-methoxy-2-propanol EC50 48 Crustacea >500mg/L 1

1-methoxy-2-propanol EC50 96 Algae or other aquatic plants 7152.973mg/L 3

1-methoxy-2-propanol EC50 384 Crustacea 227.843mg/L 3

1-methoxy-2-propanol NOEC 96 Fish =4600mg/L 1

rosin-colophony LC50 96 Fish 0.144mg/L 3

rosin-colophony EC50 48 Crustacea =4.5mg/L 1

rosin-colophony EC50 96 Algae or other aquatic plants 0.170mg/L 3

rosin-colophony EC50 384 Crustacea 0.076mg/L 3

c.i. basic yellow 37, monohydrochloride

LC50 96 Fish 0.038mg/L 3

c.i. basic red 12 LC50 96 Fish 0.685mg/L 3

c.i. basic red 12 EC50 96 Algae or other aquatic plants 0.772mg/L 3

c.i. basic red 12 EC50 384 Crustacea 0.175mg/L 3

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high watermark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters. Wastes resulting from use of the product must be disposed of on site or at approved waste sites. Toxic to soil organisms. On the basis of available evidence concerning either toxicity, persistence, potential to accumulate and or observed environmental fate and behaviour, the material may present a danger,immediate or long-term and /or delayed, to the structure and/ or functioning of natural ecosystems. For Ethanol: log Kow: -0.31 to -0.32; Koc 1: Estimated BCF= 3; Half-life (hr) air: 144; Half-life (hr) H2O surface water:144; Henry's atm m3 /mol: 6.29E-06; BOD 5 if unstated: 0.93-1.67,63% COD: 1.99-2.11,97%; ThOD : 2.1.

Environmental Fate:Terrestrial - Ethanol quickly biodegrades in soil but may leach into groundwater; most is lost by evaporation. Ethanol is expected to have very high mobility in soil. Volatilization of ethanol from moist soil surfaces is expected to be an important fate process. Atmospheric Fate: Ethanol is expected to exist solely as a vapour in the ambient atmosphere. Aquatic Fate: When released into water ethanol readily evaporates and is biodegradable.

Ethanol is not expected to adsorb to suspended solids and sediment. DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient Persistence: Water/Soil Persistence: Air

ethanol LOW (Half-life = 2.17 days) LOW (Half-life = 5.08 days)

1-methoxy-2-propanol LOW (Half-life = 56 days) LOW (Half-life = 1.7 days)

rosin-colophony HIGH HIGH

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data*

extracted from RTECS - Register of Toxic Effect of chemical Substances

Acute Toxicity

Skin Irritation/Corrosion

Respiratory or Skin sensitisation

Serious Eye Damage/Irritation

Mutagenicity

Alcohol Based Ink

STOT - Repeated Exposure

STOT - Single Exposure

Aspiration Hazard

Carcinogenicity

Reproductivity

Legend: – Data available but does not fill the criteria for classification

– Data required to make classification available – Data Not Available to make classification

Issue Date:20/01/2017

Continued...

c.i. basic yellow 37, monohydrochloride

HIGH HIGH

c.i. basic red 12 HIGH HIGH

12.3. Bioaccumulative potential

Ingredient Bioaccumulation

ethanol LOW (LogKOW = -0.31)

1-methoxy-2-propanol LOW (BCF = 2)

rosin-colophony HIGH (LogKOW = 6.4607)

c.i. basic yellow 37, monohydrochloride

HIGH (LogKOW = 4.9479)

c.i. basic red 12 HIGH (LogKOW = 4.6657)

12.4. Mobility in soil

Ingredient Mobility

ethanol HIGH (KOC = 1)

1-methoxy-2-propanol HIGH (KOC = 1)

rosin-colophony LOW (KOC = 21990)

c.i. basic yellow 37, monohydrochloride

LOW (KOC = 345000)

c.i. basic red 12 LOW (KOC = 2410000)

12.5.Results of PBT and vPvB assessment

P B T

Relevant available data Not Available Not Available Not Available

PBT Criteria fulfilled? Not Available Not Available Not Available

12.6. Other adverse effects

No data available

SECTION 13 DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product / Packaging disposal

Recycle wherever possible. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material). Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Waste treatment options Not Available

Sewage disposal options Not Available

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant NO

HAZCHEM •3YE

Land transport (ADR)

14.1.UN number 1993

14.2.UN proper shipping name

FLAMMABLE LIQUID, N.O.S. (1-methoxy-2-propanol and ethanol)

Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. Otherwise:

If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product.

DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority.

Continued...

Class 14.3. Transport hazard

3 class(es)

Subrisk Not Applicable

14.4.Packing group II

14.5.Environmental hazard Not Applicable

14.6. Special precautions for user

Hazard identification (Kemler) 33

Classification code F1

Hazard Label 3

Special provisions 274 601 640C 640D

Limited quantity 1 L

Air transport (ICAO-IATA / DGR)

14.1. UN number 1993

14.2. UN proper shipping name

Flammable liquid, n.o.s. * (1-methoxy-2-propanol and ethanol)

14.3. Transport hazard class(es)

ICAO/IATA Class 3

ICAO / IATA Subrisk Not Applicable

ERG Code 3H

14.4. Packing group II

14.5. Environmental hazard Not Applicable

14.6. Special precautions for user

Special provisions A3

Cargo Only Packing Instructions 364

Cargo Only Maximum Qty / Pack 60 L

Passenger and Cargo Packing Instructions 353

Passenger and Cargo Maximum Qty / Pack 5 L

Passenger and Cargo Limited Quantity Packing Instructions Y341

Passenger and Cargo Limited Maximum Qty / Pack 1 L

Sea transport (IMDG-Code / GGVSee)

14.1. UN number 1993

14.2. UN proper shipping name

FLAMMABLE LIQUID, N.O.S. (1-methoxy-2-propanol and ethanol)

14.3. Transport hazard class(es)

IMDG Class 3

IMDG Subrisk Not Applicable

14.4. Packing group II

14.5. Environmental hazard Not Applicable

14.6. Special precautions for user

EMS Number F-E, S-E

Special provisions 274

Limited Quantities 1 L

Inland waterways transport (ADN)

14.1. UN number 1993

14.2. UN proper shipping name

FLAMMABLE LIQUID, N.O.S. (1-methoxy-2-propanol and ethanol)

14.3. Transport hazard class(es)

3 Not Applicable

14.4. Packing group II

14.5. Environmental hazard Not Applicable

14.6. Special precautions for user

Classification code F1

Special provisions 274; 601; 640C; 640D

Limited quantity 1 L

Equipment required PP, EX, A

Continued...

Fire cones number 1

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

ETHANOL(64-17-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles European Customs Inventory of Chemical Substances ECICS (English) European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31 European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI UK Workplace Exposure Limits (WELs)

1-METHOXY-2-PROPANOL(107-98-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs) EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles European Customs Inventory of Chemical Substances ECICS (English) European Trade Union Confederation (ETUC) Priority List for REACH Authorisation

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English) European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31 European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI UK Workplace Exposure Limits (WELs)

C.I. SOLVENT BLACK 29(61901-87-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

ROSIN-COLOPHONY(8050-09-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

European Customs Inventory of Chemical Substances ECICS (English) European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English) European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31

European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI UK Workplace Exposure Limits (WELs)

C.I. SOLVENT RED 91(61901-92-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

C.I. SOLVENT BROWN 43(61116-28-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

C.I. SOLVENT BLUE 44(61725-69-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

C.I. SOLVENT BLUE 5(1325-86-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

C.I. SOLVENT YELLOW 79(12237-31-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

C.I. SOLVENT YELLOW 82(12227-67-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

C.I. ACID ORANGE 92(52256-37-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

C.I. SOLVENT RED 218(82347-07-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

C.I. SOLVENT BLACK 45(94765-62-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

C.I. ACID VIOLET 66(12220-53-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

C.I. BASIC YELLOW 37, MONOHYDROCHLORIDE(6358-36-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

EU REACH Regulation (EC) No 1907/2006 - Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

C.I. SOLVENT BLUE 45(37229-23-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

Continued...

| C.I. BASIC RED 12(6320-14-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

European Customs Inventory of Chemical Substances ECICS (English)

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : 98/24/EC, 92/85/EC, 94/33/EC, 91/689/EEC, 1999/13/EC, Commission Regulation (EU) 2015/830, Regulation (EC) No 1272/2008 and their amendments

15.2. Chemical safety assessment

For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available.

SECTION 16 OTHER INFORMATION

Full text Risk and Hazard codes

H226 Flammable liquid and vapour. H411 | Toxic to aquatic life with long lasting effects.

Other information

Ingredients with multiple cas numbers

Name

CAS No

C.I. Solvent Blue 44

C.I. Solvent Yellow 82 C.I. Acid Orange 92 C.I. Solvent Blue 45

61725-69-7, 72428-99-0

73297-13-9, 12227-67-7 52256-37-8, 61931-16-6, 102381-84-0, 10279-42-2, 180262-71-9, 24328-40-3

37229-23-5, 23552-74-1, 75317-36-1

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use,

frequency of use and current or available engineering controls must be considered. For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards: EN 166 Personal eye-protection EN 340 Protective clothing EN 374 Protective gloves against chemicals and micro-organisms EN 13832 Footwear protecting against chemicals EN 133 Respiratory protective devices

Definitions and abbreviations

PC-TWA: Permissible Concentration-Time Weighted Average PC-STEL: Permissible Concentration-Short Term Exposure Limit IARC: International Agency for Research on Cancer ACGIH: American Conference of Governmental Industrial Hygienists STEL: Short Term Exposure Limit TEEL: Temporary Emergency Exposure Limit. IDLH: Immediately Dangerous to Life or Health Concentrations OSF: Odour Safety Factor NOAEL :No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level TLV: Threshold Limit Value LOD: Limit Of Detection OTV: Odour Threshold Value BCF: BioConcentration Factors BEI: Biological Exposure Index

end of SDS