

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 product identifier**

Product code : KU401RVG01
 Product name : REVITOL; 1LT

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

Product use : Printing ink or Additive
 Uses advised against : None known.

1.3 Details of the supplier of the safety data sheet

Manufacturer / Distributor : Flint Group,
 Print Media Europe,
 Varn House,
 Northbank Industrial Park,
 Irlam,
 Greater Manchester,
 M44 5BL
 England.

e-mail address of person responsible for this SDS : compliance.centre@flintgrp.com

1.4 Emergency telephone number (with hours of operation)

+44 (0) 161 775 5412 (8:00 h - 17:00 h)

History

Date of printing : 11.01.2013.
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 Version : 5.01

2. HAZARDS IDENTIFICATION**Classification and labeling according to Regulation (EC) 1907/2006 (REACH)**

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

2.1b Classification of the substance or mixture

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : R10
 Xi; R36/38

Physical/chemical hazards : Flammable.

Human health hazards : Irritating to eyes and skin.

Environmental hazards : Not applicable.

2.2b Label elements

Hazard symbol or symbols :



Irritant

Risk phrases : R10- Flammable.
 R36/38- Irritating to eyes and skin.

REVITOL; 1LT

2. HAZARDS IDENTIFICATION

Safety phrases : S23- Do not breathe gas, fumes or vapor.
 S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S37- Wear suitable gloves.
 S43- In case of fire, use dry chemical powder.
 S60- This material and its container must be disposed of as hazardous waste.

Contains :

2.3 Other hazards which do not result in classification

Results of PBT and vPvB assessment: See sections 12 for details.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Substances presenting a health or environmental hazard within the meaning of the Dangerous Substances Directive 67/548/EEC.

Chemical name	%	REACH Registration number	CAS number	EC number	Classification
Tall oil	10-20		8002-26-4	232-304-6	Xi; R36/38 [1]
2,2'-iminodiethanol	7-10	01-2119488930-28-XXXX	111-42-2	203-868-0	Xn; R22, R48/22 [1] [2] Xi; R41, R38
propan-2-ol	5-10	01-2119457558-25-XXXX	67-63-0	200-661-7	F; R11 [1] Xi; R36 [2] R67
2-butoxyethanol	3-5	01-2119475108-36-XXXX	111-76-2	203-905-0	Xn; [1] R20/21/22 [2] Xi; R36/38
ethanediol	1-3		107-21-1	203-473-3	Xn; R22 [1] [2]

See section 16 for the full text of the R-phrases declared above

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] PBT-substance

[4] vPvB-substance

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

Hazardous ingredients / Classification according to Regulation (EC) 1272/2008 (CLP)

Chemical name	CAS number	Hazard statements	Classification
Tall oil	8002-26-4	Causes skin irritation. Causes serious eye irritation.	SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
2,2'-iminodiethanol	111-42-2	Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.	ACUTE TOXICITY: ORAL - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
propan-2-ol	67-63-0	Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness and dizziness.	FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Narcotic effects] - Category 3

REVITOL; 1LT

3. COMPOSITION/INFORMATION ON INGREDIENTS

2-butoxyethanol	111-76-2	Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. Causes skin irritation. Causes serious eye irritation.	ACUTE TOXICITY: ORAL - Category 4 ACUTE TOXICITY: SKIN - Category 4 ACUTE TOXICITY: INHALATION - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 ACUTE TOXICITY: ORAL - Category 4
ethanediol	107-21-1	Harmful if swallowed.	

4. FIRST AID MEASURES

4.1 Description of first aid measures

- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention/advice.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Give nothing by mouth. Do NOT induce vomiting.

Use suitable protective equipment (section 8).

4.2 Most important symptoms and effects, both acute and delayed

See toxicological information (section 11)

4.3 Indication of any immediate medical attention and special treatment needed

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

- Suitable Extinguishing media** : Recommended:, alcohol-resistant foam, CO₂, powders, water spray
- Extinguishing media not to be used** : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

5.3 Advice for fire-fighters

Appropriate breathing apparatus may be required. Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Exclude sources of ignition and ventilate the area.

Avoid breathing vapor or spray. Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.3 Methods and materials for containment and cleaning up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Preferably clean with a detergent. Avoid using solvents.

6.4 Reference to other sections

Note: see section 8 for personal protective equipment and section 13 for waste disposal.

REVITOL; 1LT

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. To dissipate static electricity during transfer, ground drum and connect to receiving container with bonding strap. Operators should wear antistatic footwear and clothing and floors should be of the conducting type. Keep container tightly closed. Keep away from heat, sparks and flame. No sparking tools should be used. Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this preparation. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Put on appropriate personal protective equipment (see section 8). Always keep in containers made from the same material as the original one. Comply with the health and safety at work laws.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with all local, regional, national and international regulations.
 Store in a dry, cool and well-ventilated area, away from incompatible materials (see section 10).
 Observe label precautions. Keep container tightly closed and in a well-ventilated place.

Keep away from sources of ignition - No smoking. Prevent unauthorized access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Not applicable.

7.4 Additional information

Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Ingredient name	Occupational exposure limits
propan-2-ol	EH40/2005 WELs (United Kingdom (UK), 8/2007). STEL: 1250 mg/m ³ 15 minute(s). STEL: 500 ppm 15 minute(s). TWA: 999 mg/m ³ 8 hour(s). TWA: 400 ppm 8 hour(s).
2-butoxyethanol	EH40/2005 WELs (United Kingdom (UK), 8/2007). Absorbed through skin. STEL: 50 ppm 15 minute(s). TWA: 25 ppm 8 hour(s).
ethanediol	EH40/2005 WELs (United Kingdom (UK), 8/2007). Absorbed through skin. TWA: 10 mg/m ³ 8 hour(s). Form: Particulate STEL: 104 mg/m ³ 15 minute(s). Form: Vapour STEL: 40 ppm 15 minute(s). Form: Vapour TWA: 52 mg/m ³ 8 hour(s). Form: Vapour TWA: 20 ppm 8 hour(s). Form: Vapour

Other Exposure limits : CMR: See toxicological information (section 11)

8.2 Exposure controls

Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapors below the OEL, suitable respiratory protection must be worn.

Individual protection measures

Respiratory system : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators.

Skin and body : Personnel should wear antistatic clothing made of natural fibers or of high-temperature-resistant synthetic fibers.

REVITOL; 1LT

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Hands** : The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.
- Gloves** : For prolonged or repeated handling, use the following type of gloves:
- Recommended: butyl rubber, foil, fluor rubber
 May be used: nitrile rubber, neoprene
 Not recommended: PVC
- Eyes** : Use safety eyewear designed to protect against splash of liquids.
- Environmental exposure controls**
 Do not allow to enter drains or watercourses.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- Appearance**
- Physical state** : Liquid.
- Color** : Yellow.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : ≥ 100 °C
- Flash point** : Closed cup: 47°C [Measured]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not applicable.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Explosion limits**
- Lower:** : 2 %Vol
- Upper:** : 12 %Vol
- Vapor pressure** : ≤ 26 hPa
- Vapor density** : Not available.
- Density** : ~ 1 g/cm³
- Solubility** : insoluble in water.
- Octanol/water partition coefficient** : Not available.
- Auto-ignition temperature** : ca 244 °C
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Explosive properties** : Not available.
- Oxidizing properties** : Not available.

9.2 Other information

- SADT** : Not available.

REVITOL; 1LT

10. STABILITY AND REACTIVITY

10.1 Reactivity

Not available.

10.2 Chemical stability

Stable under recommended storage and handling conditions (see section 7).

10.3 Possibility of hazardous reactions

Not available.

10.4 Conditions to avoid

When exposed to high temperatures may produce hazardous decomposition products.

10.5 Incompatible materials

Keep away from the following materials to prevent strong exothermic reactions:
oxidizing agents, strong alkalis, strong acids

10.6 Hazardous decomposition products

Decomposition products may include the following materials:
carbon monoxide, carbon dioxide, smoke, oxides of nitrogen

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

There is no data available on the preparation itself. The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See sections 2 and 3 for details.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. Ingestion may cause gastrointestinal irritation and diarrhea. If splashed in the eyes, the liquid may cause irritation and reversible damage.

Substances / Mixtures

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
propan-2-ol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
ethanediol	LD50 Oral	Rat	4700 mg/kg	-

Irritation/Corrosion : Causes eye irritation. Irritating to skin.

Sensitization : Not available.

Mutagenicity : Not available.

Carcinogenicity : Not available.

Reproductive toxicity : Not available.

Specific target organ toxicity (single exposure) : Not available.

Specific target organ toxicity (repeated exposure) : Not available.

Aspiration hazard : Not available.

Chronic toxicity : Not available.

Teratogenicity : Not available.

Other information

Toxicokinetics

Absorption : Not available.

Distribution :

REVITOL; 1LT

11. TOXICOLOGICAL INFORMATION

Contains material which causes damage to the following organs: eye, lens or cornea.

Contains material which may cause damage to the following organs: blood, kidneys, liver, lymphatic system, upper respiratory tract, skin, central nervous system (CNS).

Metabolism : Not available.

Elimination : Not available.

12. ECOLOGICAL INFORMATION

There is no data available on the preparation itself.
Do not allow to enter drains or watercourses.

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and is not classified as dangerous for the environment.

12.1 Toxicity data

Product/ingredient name	Result	Species	Exposure
2,2'-iminodiethanol	Acute LC50 2150 ug/L Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 100000 ug/L Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	96 hours
	Chronic NOEC <24000 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours	48 hours
	Chronic NOEC 540 ppm Marine water	Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling) - 8 to 15 mm	96 hours
propan-2-ol	Acute LC50 1400000 ug/L Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 >1400000 ug/L	Fish - Gambusia affinis - 20 to 30 mm	96 hours
2-butoxyethanol	Acute EC50 >1000 mg/L Fresh water	Daphnia - Daphnia magna - <24 hours	48 hours
	Acute LC50 800000 ug/L Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 1250000 ug/L Marine water	Fish - Menidia beryllina - 40 to 100 mm	96 hours
	Chronic NOEC 1000 mg/L Fresh water	Daphnia - Daphnia magna - <24 hours	48 hours
ethanediol	Acute LC50 >100000 ug/L Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 6900000 to 8800000 ug/L Fresh water	Daphnia - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 8050000 ug/L Fresh water	Fish - Pimephales promelas - <=7 days	96 hours
	Chronic NOEC 11610000 ug/L Fresh water	Daphnia - Ceriodaphnia dubia - <=24 hours	48 hours
	Chronic NOEC 6090000 ug/L Fresh water	Fish - Pimephales promelas - <=7 days	96 hours

12.2 Persistence/degradability

Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Not available.

12.5 Results of PBT and vPvB assessment

PBT : P: Not available. B: Not available. T: Not available.

vPvB : vP: Not available. vB: Not available.

12.6 Other adverse effects

AOX : Not available.

Date of issue/Date of revision : 02.10.2012.

Page: 7/9

REVITOL; 1LT

12. ECOLOGICAL INFORMATION

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Do not allow to enter drains or watercourses.

Dispose of according to all federal, state and local applicable regulations.

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

European waste catalogue (EWC) : The European Waste Catalogue classification of this product, when disposed of as waste, is: 07 07 04* other organic solvents, washing liquids and mother liquors. If this product is mixed with other wastes, this code may no longer apply. If mixed with other wastes, the appropriate code should be assigned. For further information, contact your local waste authority.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

14. TRANSPORT INFORMATION

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

International transport regulations

14.1 UN number : UN1993

14.2 Proper shipping name : FLAMMABLE LIQUID, N.O.S. (propan-2-ol)

14.3 Transport hazard class(es) : 3



14.4 Packing group : III

14.5 Environmental hazards : Not applicable.

14.6 Special precautions for user : Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Additional information

ADR ADN/ADNR

Classification code : F1
Special provisions : 274 601 640E
Hazard identification number : 30
ADR Tunnel Code: : (D/E)
Limited quantity : 5 L

IMDG

Emergency schedules (EmS) : F-E, _S-E_
Marine pollutant : Not applicable.
Limited quantity : 5 l

IATA

	Max. Qty	Packaging instruction
Passenger and Cargo Aircraft	60 L	355
Cargo Aircraft Only	220 L	366

REVITOL; 1LT

14. TRANSPORT INFORMATION

Limited quantity : 10 L Y344

15. REGULATORY INFORMATION

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

- EU regulations** : The product is classified as dangerous according to Directive 1999/45/EC and its amendments.
See sections 2 and 3 for details.
- VOC content** : ~ 9.4 % ~ 94.2 g/L
- Europe inventory** : All components are listed or exempted.
- Industrial use** : The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

15.2 Chemical Safety Assessment

This product contains substances for which Chemical Safety Assessments are still required.

16. OTHER INFORMATION

CEPE MSDS Code : 1

Full text of R-phrases referred to in sections 2 and 3 - Europe

- R11- Highly flammable.
R10- Flammable.
R22- Harmful if swallowed.
R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
R48/22- Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R41- Risk of serious damage to eyes.
R36- Irritating to eyes.
R38- Irritating to skin.
R36/38- Irritating to eyes and skin.
R67- Vapors may cause drowsiness and dizziness.

The information in this Safety Data Sheet is required pursuant to Annex II to Regulation (EC) No 1907/2006.

Date of issue/Date of revision : 02.10.2012.

Version : 5.01

Indicates information that has changed from previously issued version.

Notice to reader

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.