

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - United Kingdom (UK)

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier	
Product name	: JCUP8483:CRYSTAL URW8510 WHITE 4X1L:GCC
Product code	: JCUP8483
Trade name	: GCC UV CURABLE INK GCC-W WHITE
Index number	:

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

Identified uses		
Colorant; Printing ink related material; Printing ink.		
Uses advised against	Reason	

1.3 Details of the supplier of the safety data sheet

Manufacturer/ Distributor	: SUNJET NORTON HILL MIDSOMER NORTON BATH SOMERSET BA3 4RT UNITED KINGDOM (44) 1761 414471 SUNJET NORTON HILL MIDSOMER NORTON BATH SOMERSET BA3 4RT UNITED KINGDOM (44) 1761 414471
e-mail address of person responsible for this SDS	: regulatory.affairs@sunchemical.com
1.4 Emergency telephone nu Supplier	nber
Telephone number	: (44) 870-8200418 (Chemtrec - 24 hours) (1)703 527 3887(Chemtrec International-24 hours)

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT RE 1, H372 Aquatic Chronic 2, H411

Classification according to Directive 1999/45/EC [DPD]

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

Classification	: T; R48/23 Xi; R36 R43 N; R51/53
Human health hazards	: Toxic: danger of serious damage to health by prolonged exposure through inhalation. Irritating to eyes. May cause sensitization by skin contact.
Environmental hazards	: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
See Section 16 for the full tex	of the R-phrases declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements Hazard pictograms	
Signal word	: Danger
Hazard statements	: Zauses serious eye irritation. May cause an allergic skin reaction. Causes damage to organs through prolonged or repeated exposure if inhaled. (liver) Toxic to aquatic life with long lasting effects.
Precautionary statements	
Prevention	: Wear protective gloves. Wear eye or face protection. Do not eat, drink or smoke when using this product. Avoid release to the environment.
Response	: IF IN EYES: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical attention.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	: Z-phenoxyethyl acrylate 1-vinylhexahydro-2H-azepin-2-one
Supplemental label elements	: Not applicable.
2.3 Other hazards	
Other hazards which do	: None known.

not result in classification

SECTION 3: Composition/information on ingredients

			Class	ification	
Product/ingredient name	Identifiers	%	67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	Туре
phenoxyethyl acrylate	EC: 256-360-6 CAS: 48145-04-6	25 < 50	R43 N; R51/53	Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
1-vinylhexahydro-2H- azepin-2-one	REACH #: 01-2119977109-27	20 < 25	T; R48/23	Acute Tox. 4, H302	[1]
	EC: 218-787-6 CAS: 2235-00-9		Xn; R22 Xi; R36 R43	Acute Tox. 4, H312 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT RE 1, H372	
Alkyl Acrylate Ester	REACH #: 01-2119970213-43	10 < 20	R43	Skin Sens. 1, H317	[1]
	EC: 617-546-6		N; R51/53	Aquatic Chronic 2, H411	
diphenyl(2,4, 6-trimethylbenzoyl) phosphine oxide	CAS: 84170-74-1 EC: 278-355-8 CAS: 75980-60-8	1.0 < 2.5	Repr. Cat. 3; R62 N; R51/53	Repr. 2, H361f Aquatic Chronic 2, H411	[1]
			See Section 16 for the full text of the R- phrases declared above.	See Section 16 for the full text of the H statements 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, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Туре

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

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

SECTION 4: First aid measures

4.1 Description of first aid measures

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Skin contact	: Remove contaminated clothing and shoes. Wash skin thoroug water or use recognized skin cleanser. Do NOT use solvents accidental skin contact, avoid concurrent exposure to the sun UV light which may increase the sensitivity of skin.	or thinners. In case of
Inhalation	 Remove to fresh air. Keep person warm and at rest. If not bre irregular or if respiratory arrest occurs, provide artificial respira trained personnel. 	
Eye contact	: Check for and remove any contact lenses. Immediately flush temperature water for at least 15 minutes, keeping eyelids op accidental eye contact, avoid concurrent exposure to the sun light which may increase the sensitivity of the eyes.	en. In case of
General	 In all cases of doubt, or when symptoms persist, seek medica anything by mouth to an unconscious person. If unconscious, position and seek medical advice. 	
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SECTION 4: First aid measures

Ingestion	: If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]. See Sections 2 and 3 for details.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact. Acrylate components of the mixture have irritating properties. Prolonged or repeated contact with skin or mucous membrane may result in irritation symptoms, such as redness, blistering, dermatitis etc. May cause allergic skin reactions with repeated exposure.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

The inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

Ingestion may cause nausea, weakness and central nervous system effects.

Contains 2-phenoxyethyl acrylate, 1-vinylhexahydro-2H-azepin-2-one, Alkyl Acrylate Ester. May produce an allergic reaction.

The following products have sensitizing properties: 2-phenoxyethyl acrylate, 1-vinylhexahydro-2H-azepin-2-one, Alkyl Acrylate Ester. Cases of hypersensitivity may occur, possibly with cross-sensitization to other acrylate materials.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to medical doctor	: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	: No specific treatment.

SECTION 5: Firefighting measures

: Use dry chemical, CO ₂ , water spray (fog) or foam.
: Do not use water jet.
rom the substance or mixture
: Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.
: Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.
: Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.
: Appropriate breathing apparatus may be required.

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SECTION 5: Firefighting measures

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures		
For non-emergency personnel	:	Exclude sources of ignition and ventilate the area. Avoid breathing vapor or mist. Refer to protective measures listed in sections 7 and 8.
For emergency responders	:	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
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.

SECTION 7: Handling and storage

Persons with a history of skin sensitization problems should not be employed in any process in which this product is used, without Personal Protective Equipment measures.

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	Not available.	
7.3 Specific end use(s) Recommendations	Not available.	
	Keep away from heat and direct sunlight.	
	Notes on joint storage Keep away from: oxidizing agents, strong alkalis, strong acids. Additional information on storage conditions Observe label precautions. Store in a dry, cool and well-ventilated from heat and direct sunlight. Keep container tightly closed. Keep away from sources of ignition. No smoking. Prevent unauth Containers that have been opened must be carefully resealed and prevent leakage. Keep only in the original container.	orized access.
	Store in accordance with local regulations.	
storage, including any incompatibilities	Keep away from heat and direct sunlight.	
7.2 Conditions for safe	: Store between the following temperatures: 5 - 35 $^{\circ}$ C	
handling	Avoid contact with skin and eyes. Avoid the inhalation of dust, par mist arising from the application of this mixture. Keep container to away from heat, sparks and flame. Always keep in containers made from the same material as the o Put on appropriate personal protective equipment (see Section 8) Never use pressure to empty. Container is not a pressure vessel. Eating, drinking and smoking should be prohibited in areas where handled, stored and processed. Comply with the health and safety at work laws.	ghtly closed. Keep riginal one.).
7.1 Precautions for safe	: Use only in well-ventilated areas.	

SECTION 7: Handling and storage

Industrial sector specific solutions

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ ingredient name	Туре	Exposure	Value	Population	Effects
No DELs available.					

PNECs

Product/ingredient name	Туре	Compartment Detail	Value	Method Detail
No PECs available.				

8.2 Exposure controls	
Appropriate engineering 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 meas	ures
Hygiene measures	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	: Use safety eyewear designed to protect against splash of liquids.
Skin protection	
Hand protection	: Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

SECTION 8: Exposure controls/personal protection

Gloves	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Gloves	 "RadTech recommend use of: -single use: disposable, unpowdered, nitrile gloves: Use for short duration exposures not exceeding 30 minutes, in situations where only splashes are likely. Do not use where mechanical resistance is required or where puncturing or tearing of the gloves is likely to occur. Replace immediately if punctured, degraded or tearing of the gloves has occurred. -general use: minimum 0.45mm thick, unlined, unpowdered, natural rubber latex- free nitrile gloves: Use for longer duration exposure (up to 4 hours for most UV/EB curing acrylates) or mechanical handling activities. Replace immediately when punctured or when a change of appearance (colour, elasticity, shape) occurs heavy duty: unlined, natural rubber latex-free nitrile gloves: Use when handling solvents. Avoid the use of chlorinated solvents and limit the use of ketones (e.g. acetone, MEK, MIBK) and ethyl and butyl acetates, as they may accelerate glove deterioration."
Body protection	: Personnel should wear protective clothing.
Respiratory protection	: In situations where misting or flying may occur, use appropriate certified respirators.
Environmental exposure controls	: Do not allow to enter drains or watercourses.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Date of issue : '	l0 August, 2015
Viscosity	: Not tested
Decomposition temperature	: Not applicable.
Auto-ignition temperature	: Not applicable.
Partition coefficient: n-octanol/ water	: Not applicable.
Solubility(ies)	: Not tested
Relative density	: Not tested
Vapor density	: Not tested
Vapor pressure	: Not tested
Upper/lower flammability or explosive limits	: Not tested
Evaporation rate	: <1 (Alkyl Acrylate Ester) compared with butyl acetate
Boiling point	: Lowest known value: 132°C (270°F)
рН	: Not tested
VOC	: 1%
Flash point	: 96°C
Melting point/freezing point	: Not applicable.
Odor threshold	: Not applicable.
Odor	: Characteristic.
Color	: Various
Physical state	: Liquid.

SECTION 9: Physical and chemical properties

Explosive properties

: Not applicable.

- Oxidizing properties
- : Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity				
10.1 Reactivity	No specific test data related to reactivity available for this product or its ingredient	ts.		
10.2 Chemical stability	Hazardous reactions or instability may occur under certain conditions of storage ouse.	or		
10.3 Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.			
10.4 Conditions to avoid	This mixture contains materials which are unstable under the following conditions exposure to heat, strong UV sources. These could cause the product to polymeriz exothermically. Unintentional contact with them should be avoided.			
10.5 Incompatible materials	Keep away from: free radical initiators, peroxides, strong alkalis, reactive metals.			
10.6 Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.			
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Hazardous polymerization : May polymerize on exposure to sunlight.

SECTION 11: Toxicological information

There are no data available on the mixture itself. Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]. See Sections 2 and 3 for details.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact. Acrylate components of the mixture have irritating properties. Prolonged or repeated contact with skin or mucous membrane may result in irritation symptoms, such as redness, blistering, dermatitis etc. May cause allergic skin reactions with repeated exposure.

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11.1 Information on toxicological effects

Acute toxicity				
Product/ingredient name	Result	Species	Dose	Exposure
1-vinylhexahydro-2H-azepin- 2-one	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	1400 mg/kg	-

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SECTION 11: Toxicological information

Irritation/Corrosion

Not determined - Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Sensitization

Not determined - Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Mutagenicity

Not applicable.

Carcinogenicity

Not applicable.

Reproductive toxicity

Not determined - Classification according to Regulation (EC) No. 1272/2008 [CLP/ GHS]

Teratogenicity

Not applicable.

SECTION 12: Ecological information

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

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]. See Sections 2 and 3 for details.

12.1 Toxicity

Not available.

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
diphenyl(2,4, 6-trimethylbenzoyl) phosphine oxide	-	53 to 72	low

12.4 Mobility in soil Soil/water partition coefficient (K _{oc})	: Not available.
Mobility	: Not available.
12.5 Results of PBT and vi	PvB assessment
PBT	: Not applicable.
vPvB	: Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

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SECTION 13: Disposal considerations

Do not allow to enter drains or watercourses.

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

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

For further information, contact your local waste authority.

13.1 Waste treatment methods

<u>Product</u>			
Methods of disposal	: The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non- recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.		
Packaging			
Methods of disposal	 The generation of waste should be avoided or minimized wherever possible. Wast packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 		
European Waste Catalogue (EWC):	: 08 03 12 waste ink containing dangerous substances		
Special precautions	: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.		

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ΙΑΤΑ
14.1 UN number	UN3082	UN3082	UN3082	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-propenoic acid, 2-phenoxyethyl ester; Alkyl Acrylate Ester)			
14.3 Transport hazard class(es)	9	9	9	9
14.4 Packing group	111	111	111	111
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes.
Additional information	-	-	-	-

Date of issue

SECTION 14: Transport information

14.6 Special
precautions for
userTransport 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.

14.7 Transport in bulk: Not available.according to Annex II ofMARPOL 73/78 and the IBCCode

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture <u>EU Regulation (EC) No. 1907/2006 (REACH)</u>

Annex XIV - List of substances subject to authorization

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions : Not applicable. on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Other EU regulations

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects	
diphenyl(2,4, 6-trimethylbenzoyl) phosphine oxide	-	-	-	Repr. 2, H361f	
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 cont to be received.	ains substances for wl	nich Chemical Safety	Assessments are still	

SECTION 16: Other information

CEPE code : 4

✓ Indicates information that has changed from previously issued version.

SECTION 16: Other information

Abbreviations and acronyms	 ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement PNEC = Predicted No Effect Concentration RRN = REACH Registration Number 		
Full text of abbreviated H statements	 H302 Harmful if swallowed. H312 Harmful in contact with skin. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H361f Suspected of damaging fertility. H372 Causes damage to organs through prolonged or repeated exposure if inhaled. H411 Toxic to aquatic life with long lasting effects. 		
Full text of classifications [CLP/GHS]	Keute Tox. 4, H302 Acute Tox. 4, H312ACUTE TOXICITY: ORAL - Category 4 ACUTE TOXICITY: SKIN - Category 4 AQUATIC HAZARD (LONG-TERM) - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 TOXIC TO REPRODUCTION [Fertility] - Category 2 SKIN SENS. 1, H317 		
Full text of abbreviated R phrases	 R62- Possible risk of impaired fertility. R48/23- Toxic: danger of serious damage to health by prolonged exposure through inhalation. R22- Harmful if swallowed. R36- Irritating to eyes. R43- May cause sensitization by skin contact. R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. 		
Full text of classifications [DSD/DPD]	 Repr. Cat. 3 - Toxic to reproduction category 3 T - Toxic Xn - Harmful Xi - Irritant N - Dangerous for the environment 		
Date of printing	: 10/20/2015.		
Date of issue/ Date of revision	: 8/10/2015.		
Date of previous issue	: 11/22/2014.		
Version	: 4.08		
Notice to reader			

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.

Annex