

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

1.1. PRODUCT IDENTIFIER

Product Name: SUDAN® DK-GP100X

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified Uses: Manufacture of substance
Distribution of substance
Formulation & (re)packing of substances and mixtures
Uses in coatings
Use as a fuel
Use as a functional fluid
Lubricants
Laboratories

Uses advised against: This product is not recommended for any industrial, professional or consumer use other than the Identified Uses above.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier: **John Hogg Technical Solutions**
Mellors Road
Trafford Park
Manchester
M17 1PB
UK

Supplier General Contact: + 44 161 872 5611
E-mail: info@johnhogg.co.uk
Fax Number: + 44 161 848 8206

1.4. EMERGENCY TELEPHONE NUMBER

24 Hour Environmental / Emergency Telephone: +44 (0)207 858 1228

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF SUBSTANCE OR MIXTURE

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

Aspiration hazard: Category 1, H304: May be fatal if swallowed and enters airways.

Skin Sensitization: Category 1B, H317: May cause an allergic skin reaction.

Specific target organ toxicity following single exposure (Central Nervous System): Category: 3, H336: May cause drowsiness or dizziness.

Carcinogen: Category 2, H351: Suspected of causing cancer.

Chronic hazards to the aquatic environment: Category: 2, H411: Toxic to aquatic life with long lasting effects.

EUH066: Repeated exposure may cause skin dryness or cracking.

Classification according to EU Directive 1999/45/EC (DPD)

Category 3 Carcinogen: Xn: Carc Cat 3, R40: Limited evidence of a carcinogenic effect.

R43: May cause sensitisation by skin contact.

Dangerous for the environment: N, R51/53: Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

R65: Harmful: may cause lung damage if swallowed.

R66: Repeated exposure may cause skin dryness or cracking.

R67: Vapours may cause drowsiness and dizziness.

2.2. LABEL ELEMENTS

Label elements according to Regulation (EC) No. 1272/2008 (CLP)

Pictograms:



Signal Word: Danger

Hazard Statements:

H304: May be fatal if swallowed and enters airways.

H317: May cause an allergic skin reaction.

H336: May cause drowsiness or dizziness

H351: Suspected of causing cancer

H411: Toxic to aquatic life with long lasting effects

Precautionary Statements (Prevention)

P201: Obtain special instructions before use

P273: Avoid release to the environment

P281: Use personal protective equipment as required

Precautionary Statements (Response)

P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

P308 + P313: IF exposed or concerned: Get medical advice/attention

P391: Collect spillage

Precautionary Statements (Storage)

P405: Store locked up

Precautionary Statements (Disposal)

P501: Dispose of contents/container to hazardous or special waste collection point.

2.3. OTHER HAZARDS

EUH066: Repeated exposure may cause skin dryness or cracking

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.2. MIXTURES

CLASSIFICATION ACCORDING TO REGULATION (EC) NO. 1272/2008 [CLP]

NAME	CAS No.	REACH No.	EU No.	CLASSIFICATION	CONTENT
HYDROCARBONS, C10, AROMATICS, >1% NAPHTHALENE					
HYDROCARBONS, C10 – C13, AROMATICS, >1% NAPHTHALENE					
-----		01-2119463588-24-xxxx	919-284-0}	Carc. Cat 2: H351	ca 85%
-----		01-2119451151-53-xxxx	926-273-4}	Aspiration Cat 1: H304 STOT SE Cat 3: H336 (drowsiness and dizziness) Aquatic Chronic Cat 2: H411	
C.I. SOLVENT BLUE 79					
90170-70-0	Pre-Registered		290-505-4	-----	ca 9%

C.I. SOLVENT YELLOW 124 34432-92-3	01-2119974150-43	252-021-1	STOT RE 2: H373 Acute Tox.4: H302 Skin Sens. 1B: H317 Aqua Chron. 4: H413	ca 7%
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Reportable hazardous constituent(s) contained in UVCB- and/or multi-constituent substance(s) complying with the classification criteria and/or with an exposure limit (OEL).

NAPHTHALENE 91-20-3	-----	202-049-5	Acute Tox. 4: H302, Carc. 2: H351 Aquatic Chronic 1: H410	<10%
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CLASSIFICATION ACCORDING TO DIRECTIVE 1999/45/EC

NAME CAS No.	REACH No.	EU No.	CLASSIFICATION	CONTENT
HYDROCARBONS, C10, AROMATICS, >1% NAPHTHALENE HYDROCARBONS, C10 – C13, AROMATICS, >1% NAPHTHALENE -----	01-2119463588-24-xxxx	919-284-0}	Carc. Cat 3; R40, Xn; R65, R66, R67, N; R51/53	ca 85%
-----	01-2119451151-53-xxxx	926-273-4}		
C.I. SOLVENT BLUE 79 90170-70-0	Pre-Registered	290-505-4	-----	ca 9%
C.I. SOLVENT YELLOW 124 34432-92-3	01-2119974150-43	252-021-1	Xn: R22, R48/22 Xi: R43	ca 7%

Reportable hazardous constituent(s) contained in UVCB- and/or multi-constituent substance(s) complying with the classification criteria and/or with an exposure limit (OEL).

NAPHTHALENE 91-20-3	-----	202-049-5	Xn;R22, Xn;Carc. Cat. 3;R40, N;R50/53	<10%
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Note: See Section 16 for full text of R-Phrases and H-Statements

SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

INHALATION

In event of over-exposure remove individual to fresh air, taking steps necessary to protect the rescuer. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Remove contaminated clothing as soon as possible. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician. Launder contaminated clothing before re-use. Badly contaminated leather shoes or clothing should be discarded.

EYE CONTACT

Immediately wash with fresh water for at least 15 minutes and seek MEDICAL ATTENTION IMMEDIATELY.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Headache, dizziness, drowsiness, nausea and other Central Nervous System effects.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

SECTION 5: FIRE FIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable Extinguishing Media: Use dry chemical, foam or carbon dioxide (CO₂) to extinguish flames.

Unsuitable Extinguishing Media: Straight streams of water.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Hazardous Combustion Products: Smoke, Fumes, Incomplete combustion products, Oxides of carbon.

5.3. ADVICE FOR FIREFIGHTERS

Fire Fighting Instructions: Evacuate Area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Hazardous material. Fire-fighters should consider protective equipment indicated in Section 8.

5.4. FLAMMABILITY PROPERTIES

Flash point: >62°C
Upper / Lower Flammable Limits: 7.0 – 0.6 % volume in air
Autoignition Temperature: >380°C

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See Section 8 for advice on the minimum requirements for personal protective equipment. See the Hazard Identification Section for Significant Hazards. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgement of the emergency responders.

Small spills: normal antistatic work clothes are usually adequate.

Large spills: full body suit of chemical resistant, antistatic material is recommended.

6.2. ENVIRONMENTAL PRECAUTIONS

Large spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Land Spill: Remove all sources of ignition. Stop leak if you can do so without risk. Do not touch or walk through spilled material. Water spray may reduce vapour, but may not prevent ignition in enclosed spaces. Absorb with earth, sand or other non-combustible material and recover as much of the product itself as possible by such methods as vacuuming, using an approved vacuum pump powered by a flame proof motor. Recover residual

fluids by use of absorbent materials. Remove contaminated items including contaminated soil and place in proper containers for disposal.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Remove from the surface by skimming or with suitable absorbents.

6.4. REFERENCES TO OTHER SECTIONS

See Section 6.1.

SECTION 7: HANDLING & STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Avoid breathing mists or vapour. Handle in a well-ventilated area or provide efficient exhaust ventilation. Potentially toxic/irritating fumes/vapours may be evolved from heated or agitated material. Wear long sleeved, chemical resistant gloves, and also safety glasses if there is a risk of splashing. Avoid prolonged contact with the skin. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapours from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance.

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

The container choice, for example storage vessel, may effect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be earthed and bonded. Fixed storage containers, transfer containers and associated equipment should be earthed and bonded to prevent accumulation of static charge.

Suitable Containers/Packing: Tank Trucks; Railcars; Barges; Drums

Suitable Materials and Coatings (Chemical Compatibility): Carbon Steel; Stainless Steel; Polyester; Teflon; Polyvinyl Alcohol (PVA)

Unsuitable Materials and Coatings: Butyl Rubber; Natural Rubber; Ethylene-propylene-diene monomer (EPDM); Polystyrene; Polyethylene; Polypropylene; Polyacrylonitrile

7.3. SPECIFIC END USES

Section 1 informs about identified end-uses.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance	Standard	8 hour TWA		STEL (15min)	
		ppm	mg/m ³	ppm	mg/m ³
Hydrocarbons, C10, aromatics, >1% naphthalene	Supplier	17	100		
Hydrocarbons, C10–C13, aromatics, >1% naphthalene	Supplier	8	50		

Naphthalene	Austria	10	50		
Naphthalene	Belgium	10	53	15	80
Naphthalene	Canada - Québec	10	52	15	79
Naphthalene	Denmark	10	50	20	100
Naphthalene	European Union	10	50		
Naphthalene	France	10	50		
Naphthalene	Germany (AGS)	0,1	0,5 inhalable aerosol	0,1	0,5 inhalable aerosol
Naphthalene	Germany (DFG)				
Naphthalene	Hungary		50		
Naphthalene	Italy	10	50		
Naphthalene	Japan				
Naphthalene	Poland		20		50
Naphthalene	Singapore	10	52	15	79
Naphthalene	Spain	10	53	15	80
Naphthalene	Sweden	10	50	15	80
Naphthalene	Switzerland	10	50		
Naphthalene	The Netherlands		50		80
Naphthalene	USA - NIOSH	10	50	15 (1)	75 (1)
Naphthalene	USA - OSHA	10	50		
Naphthalene	United Kingdom	(10)	(53)	(15)	(80)

Remarks:

European Union: Indicative Occupational Exposure Limit Values, proposal [5] (for references see bibliography)

Germany (AGS): (1) 15 minutes average value

Spain: skin

USA – NIOSH: (1) 15 minutes average value

United Kingdom: The UK Advisory Committee on Toxic Substances has expressed concern that, for the OELs shown in parentheses, health may not be adequately protected because of doubts that the limit was not soundly-based. These OELs were included in the published UK 2002 list and its 2003 supplement, but are omitted from the published 2005 list.

Biological Limits

Substance	Specimen	Sampling Time	Limit	Determinant	Source
Naphthalene	Creatinine in urine	End of Shift	4µmol/mol	1-Hydroxypyrene	UK BMGV

DERIVED NO EFFECT LEVEL (DNEL)/DERIVED MINIMAL EFFECT LEVEL (DMEL)

Worker

Substance Name	Dermal	Inhalation
Hydrocarbons, C10, aromatics, >1% naphthalene	12.5 mg/kg bw/day DNEL, Chronic Exposure, Systemic Effects	150 mg/m ³ DNEL, Chronic Exposure, Systemic Effects
Hydrocarbons, C10-C13, aromatics, >1% naphthalene	12.5 mg/kg bw/day DNEL, Chronic Exposure, Systemic Effects	151 mg/m ³ DNEL, Chronic Exposure, Systemic Effects
C.I. Solvent Yellow 124	0.1 mg/kg bw/day DNEL, Repeated dose toxicity (oral)	0.353 mg/m ³ DNEL, Repeated dose toxicity (oral)

Consumer

Substance Name	Dermal	Inhalation	Oral
Hydrocarbons, C10, aromatics, >1% naphthalene	7.5 mg/kg bw/day DNEL, Chronic Exposure, Systemic Effects	32 mg/m ³ DNEL, Chronic Exposure, Systemic Effects	7.5 mg/kg bw/day DNEL, Chronic Exposure, Systemic Effects
Hydrocarbons, C10-C13, aromatics, >1% naphthalene	7.5 mg/kg bw/day DNEL, Chronic Exposure, Systemic Effects	32 mg/m ³ DNEL, Chronic Exposure, Systemic Effects	7.5 mg/kg bw/day DNEL, Chronic Exposure, Systemic Effects
C.I. Solvent Yellow 124	0.05 mg/kg bw/day DNEL, Repeated dose toxicity (oral)	0.087 mg/m ³ DNEL, Repeated dose toxicity (oral)	0.05 mg/kg bw/day DNEL, Repeated dose toxicity (oral)

Note: The Derived No Effect Level (DNEL) is an estimated safe level of exposure that is derived from toxicity data in accord with specific guidance within the European REACH regulation. The DNEL may differ from an Occupational Exposure Limit (OEL) for the same chemical. OELs may be recommended by an individual company, a governmental regulatory body or an expert organization, such as the Scientific Committee for Occupational Exposure Limits (SCOEL) or the American Conference of Governmental Industrial Hygienists (ACGIH). OELs are considered to be safe exposure levels for a typical worker in an occupational setting for an 8-hour work shift, 40 hour work week, as a time weighted average (TWA) or a 15 minute short-term exposure limit (STEL). While also considered to be protective of health, OELs are derived by a process different from that of REACH.

PREDICTED NO EFFECT CONCENTRATION (PNEC)

Substance Name	Aqua (fresh water)	Aqua (marine water)	Aqua (intermittent release)	Sewage treatment plant	Sediment	Soil	Oral (secondary poisoning)
Hydrocarbons, C10, aromatics, >1% naphthalene	NA	NA	NA	NA	NA	NA	NA
Hydrocarbons, C10-C13, aromatics, >1% naphthalene	NA	NA	NA	NA	NA	NA	NA
C.I. Solvent Yellow 124	0.003 mg/L	0.0003 mg/L	0.03 mg/L	0.0003 mg/L	9.6914 mg/kg sediment dw	2.6789 mg/kg soil dw	2 mg/kg food

8.2. EXPOSURE CONTROLS

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. **Control measures to consider:** Use explosion-proof ventilation equipment. Adequate ventilation should be provided whenever the material is heated or mists are generated.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator Type A filter material, European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves.

If prolonged or repeated contact is likely, chemical-resistant gloves are recommended. If contact with forearms is likely, wear gauntlet-style gloves. Nitrile, CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Colour:	Green
Odour:	Distinctive (Aromatic Hydrocarbon)
Odour Threshold:	No data available
pH:	No data available
Melting Point:	No data available
Freezing Point:	<-20°C [In-house method]
Initial Boiling Point / and Boiling Range:	185°C (365F) - 295°C (563F) [ASTM D86]
Flash Point [Method]:	>62°C (144F) [ASTM D-93]
Evaporation Rate (n-butyl acetate = 1):	0.05 [Hydrocarbons, C10, Aromatics, >1% naphthalene]
Flammability (Solid, Gas):	No data available
Upper/Lower Flammable Limits (Approximate volume % in air):	UEL: 7.0 LEL: 0.6 [Extrapolated]
Vapour Pressure:	No data available
Vapour Density (Air = 1):	> 1 at 101 kPa [Calculated]
Relative Density (at 15 C):	0.801 - 1.101 [With respect to water] [Calculated]
Solubility(ies): Water	Essentially insoluble
Partition coefficient (n-Octanol/Water Partition Coefficient):	No data available
Auto-ignition Temperature:	>380°C (716°F) [Extrapolated]
Decomposition Temperature:	No data available
Viscosity: (20°C)	approx. 7 cPs [In-house method]
(40°C)	approx. 5 cPs [In-house method]
Explosive Properties:	None
Oxidizing Properties:	None

9.2. OTHER INFORMATION

Density: (15°C)	approx. 0.92 kg/dm ³ [In-house method]
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SECTION 10: STABILITY & REACTIVITY

- 10.1. **REACTIVITY:** See sub-sections below.
- 10.2. **CHEMICAL STABILITY:** Material is stable under normal conditions.
- 10.3. **POSSIBILITY OF HAZARDOUS REACTIONS.** Not expected.
- 10.4. **CONDITIONS TO AVOID:** Open flames and high energy ignition sources.
- 10.5. **INCOMPATIBLE MATERIALS:** Strong oxidisers.
- 10.6. **HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

COMPONENTS:	HYDROCARBONS, C10, AROMATICS, >1% NAPHTHALENE HYDROCARBONS, C10 – C13, AROMATICS, >1% NAPHTHALENE
Acute Toxicity (Oral LD₅₀):	>5000 mg/kg Rat - Low acute toxicity by the oral route
Acute Toxicity (Dermal LD₅₀):	>2000 mg/kg Rabbit - Low acute toxicity by the dermal route
Acute Toxicity (Inhalation LC₅₀):	>4500 mg/m ³ Rat - Low acute toxicity by the inhalation route
Skin Irritation:	Very slight erythema -barely perceptible (1) – Not irritating Very slight oedema -barely perceptible (1) – Not irritating
Serious Eye Damage/Irritation:	Not Irritating.
Respiratory Sensitisation:	Not determined - Not expected to be a respiratory sensitizer
Skin Sensitisation:	Guinea pig maximization test (GPMT): Guinea Pig - Not Sensitising
Germ Cell Mutagenicity (In Vitro):	Gene Mutation: Negative - Not mutagenic
Germ Cell Mutagenicity (In Vivo):	Chromosome aberration: Negative - Not mutagenic
Carcinogenicity:	NOAEL 600 mg/kg Oral Rat 1800 mg/m ³ Inhalation Rat Suspected of causing cancer
Reproductive Toxicity:	Three-generation study: NOAEC 7800 mg/m ³ Inhalation. Rat Not expected to be a reproductive toxicant Maternal toxicity: NOAEL 150 mg/kg Oral Rat Not developmental toxicants
STOT – Single Exposure:	May cause drowsiness or dizziness
STOT – Repeated Exposure:	Not expected to cause organ damage from prolonged or repeated exposure
Aspiration Hazard:	Kinematic viscosity ≤ 20.5 mm ² /s. May be fatal if swallowed and enters airways. Based on physico-chemical properties of the materials

Inhalation

No specific health warnings noted.

Ingestion

Harmful: may cause lung damage if swallowed. Pneumonia may be the result if vomited material containing solvents reaches the lungs.

Skin Contact

May cause defatting of the skin, but is not an irritant. Not a skin sensitiser. Repeated exposure may cause skin dryness or cracking.

Eye Contact

No specific health warnings noted.

Route of entry

Skin and/or eye contact.

COMPONENT:	C.I. SOLVENT BLUE 79
Acute Toxicity (Oral LD₅₀):	>6400 mg/kg Rat - Low acute toxicity by the oral route
Acute Toxicity (Dermal LD₅₀):	>2000 mg/kg Rabbit - Low acute toxicity by the dermal route
Acute Toxicity (Inhalation LC₅₀):	>4000 mg/m ³ Rat - Low acute toxicity by the inhalation route
Skin Irritation:	Not irritating
Serious Eye Damage/Irritation:	Not Irritating.
Respiratory Sensitisation:	Not determined - Not expected to be a respiratory sensitizer
Skin Sensitisation:	Guinea pig maximization test (GPMT): Guinea Pig - Not Sensitising
Germ Cell Mutagenicity (In Vivo):	Chromosome aberration: Negative - Not mutagenic

COMPONENTS:	C.I. SOLVENT YELLOW 124
Acute Toxicity (Oral LD₅₀):	300 – 2000 mg/kg Rat
Acute Toxicity (Dermal LD₅₀):	>2000 mg/kg Rat
Skin Irritation:	Not irritating
Serious Eye Damage/Irritation:	Not Irritating.
Respiratory Sensitisation:	Not determined - Not expected to be a respiratory sensitizer
Skin Sensitisation:	LLNA assay - positive
Germ Cell Mutagenicity (In Vitro):	Gene Mutation: Negative - Not mutagenic
Germ Cell Mutagenicity (In Vivo):	Chromosome aberration: Negative - Not mutagenic
Carcinogenicity:	No data available
Reproductive Toxicity:	The NOAEL for the REPRODUCTION and DEVELOPMENT >100 mg/kg body weight/day.
STOT – Single Exposure:	Not expected to cause organ damage from single exposure
STOT – Repeated Exposure:	May cause damage to organs through prolonged or repeated exposure. (haemolytic anaemia)

OTHER INFORMATION**For the product itself:**

Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Contains:

This product contains naphthalene. Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. The International Agency for Research on Cancer evaluated naphthalene and concluded that there was sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans.

SECTION 12: ECOLOGICAL INFORMATION**Ecotoxicity:**

The product contains a substance which is toxic to aquatic organisms and which may cause long term adverse effects in the aquatic environment.

COMPONENTS: HYDROCARBONS, C10, AROMATICS, >1% NAPHTHALENE
HYDROCARBONS, C10 – C13, AROMATICS, >1% NAPHTHALENE

12.1. TOXICITY

Acute Toxicity (Fish LC₅₀ 96 hours): 2.0 – 5.0 mg/l *Onchorhynchus mykiss* (Rainbow trout)

Acute Toxicity (Aquatic Invertebrates EC₅₀ 48 hours): 1 – 10 mg/l *Daphnia magna*

Acute Toxicity (Aquatic Plants EC₅₀ 72 hours): 4 – 11 mg/l *Pseudokirchneriella Subcapitata*

Acute Toxicity (Microorganisms EC₅₀ 48 hours): 0.473 mg/l *Tetrahymena pyriformis*

Chronic Toxicity (Fish Early Life Stage): 28 days 0.103 mg/l NOELR

Chronic Toxicity (Aquatic Invertebrates): 21 days 0.180 mg/l *Daphnia magna* NOELR

Acute Toxicity (Terrestrial): Scientifically unjustified. Substance is a hydrocarbon UVCB. Standard tests for this endpoint are intended for single substances and are not appropriate for the risk assessment of this complex substance.

12.2. PERSISTENCE AND DEGRADABILITY

Degradability: The product is easily biodegradable.

Phototransformation: Scientifically unjustified. Standard tests for atmospheric oxidation half-lives are intended for single substances and are not appropriate for this complex substance.
This substance does not have the potential to undergo photolysis in water and soil, and this fate process will not contribute to a measurable degradative loss of this substance from the environment.

Stability (Hydrolysis): Scientifically unjustified. The chemical constituents that comprise hydrocarbons, C10 -C13, aromatics, >1% naphthalene consist entirely of carbon and hydrogen and do not contain hydrolyzable groups. As such, they have a very low potential to hydrolyze. Therefore, this degradative process will not contribute to their removal from the environment.

Biodegradation: Water Degradation 57 – 61%: 28 days. Readily biodegradable in water

12.3. BIOACCUMULATIVE POTENTIAL

Bioaccumulation Factor: Scientifically unjustified. Substance is a hydrocarbon UVCB. Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance.

Partition Coefficient: Scientifically unjustified. Substance is a UVCB. Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance.

12.4. MOBILITY IN SOIL

Adsorption/Desorption Coefficient: Scientifically unjustified. Substance is a hydrocarbon UVCB. Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance.

Henry's Law Constant: Not determined. Volatilisation is dependent on Henry's Law constant (HLC) which is not applicable to complex substances.

12.5. RESULTS OF PBT AND VPVB ASSESSMENT

Not Classified as PBT/vPvB by current EU criteria.

12.6. OTHER ADVERSE EFFECTS

No adverse effects are expected.

COMPONENT: C.I. SOLVENT BLUE 79

12.1. TOXICITY

**Acute Toxicity
(Aquatic Invertebrates EC₅₀ 48 hours):** >100 mg/l Daphnia magna

12.2. PERSISTENCE AND DEGRADABILITY

Not tested

12.3. BIOACCUMULATIVE POTENTIAL

Not tested

12.4. MOBILITY IN SOIL

Not tested

12.5. RESULTS OF PBT AND VPVB ASSESSMENT

Not Classified as PBT/vPvB by current EU criteria.

12.6. OTHER ADVERSE EFFECTS

No adverse effects are expected.

COMPONENT: C.I. SOLVENT YELLOW 124

12.1. TOXICITY

**Acute Toxicity
(Fish LC₅₀ 96 hours):** 140 mg/l Poecilia reticulata (Guppy)

**Acute Toxicity
(Aquatic Invertebrates EC₅₀ 48 hours):** >100 mg/l Daphnia magna

**Acute Toxicity
(Aquatic Plants EC₅₀ 72 hours):** 0.94 mg/l Desmodemus subspicatus

**Acute Toxicity
(Microorganisms EC₅₀ 3 hours):** >1000 mg/l Activated Sludge

12.2. PERSISTENCE AND DEGRADABILITY

Degradability: The substance is not readily biodegradable.

Biodegradation: Water Degradation <10%: 28 days. Not readily biodegradable in water.

Stability (Hydrolysis): In buffered solution of pH 4 the substance was hydrolysed by more than 10 % in period of 5 days. Therefore the substance is considered to be hydrolytically unstable.

12.3. BIOACCUMULATIVE POTENTIAL

Partition Coefficient: Log P_{ow}: 6.06 – 7.12

12.4. MOBILITY IN SOIL

Adsorption/Desorption Coefficient: Estimation of the adsorption coefficient (KOC) on soil and sewage sludge at given pH of mobile phase and set temperature:
log = 4.651 ± 1.168 (pH = 6.5, 25°C)
log > 5 (5.510 ± 1.591) (pH = 6.5, 25°C)

12.5. RESULTS OF PBT AND VPVB ASSESSMENT

Not Classified as PBT/vPvB.

12.6. OTHER ADVERSE EFFECTS

No adverse effects are expected.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

13.1. WASTE TREATMENT METHODS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

European Waste Code: 08 XX XX

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14: TRANSPORT INFORMATION

SYMBOLS FOR TRANSPORT



LAND (ADR/RID)

14.1. UN Number: 3082
14.2. UN Proper Shipping Name (Technical Name): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Naphthalene Solution)
14.3. Transport Hazard Class(es): 9
14.4. Packing Group: III
14.5. Environmental Hazards: Yes
14.6. Special Precautions for users:
Classification Code: M6
Label(s) / Mark(s): 9, EHS
Hazard ID Number: 90
Hazchem EAC: 3Z
Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Naphthalene Solution), 9, PG III

INLAND WATERWAYS (ADNR/ADN)

14.1. UN (or ID) Number: 3082
14.2. UN Proper Shipping Name (Technical Name): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Naphthalene Solution)
14.3. Transport Hazard Class(es): 9
14.4. Packing Group: III
14.5. Environmental Hazards: Yes
14.6. Special Precautions for users:
Hazard ID Number: 90
Label(s) / Mark(s): 9 (N2), EHS
Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Naphthalene Solution), 9 (N2, F), PG III, D15=0.90kg/dm³

SEA (IMDG)

14.1. UN Number: 3082
14.2. UN Proper Shipping Name (Technical Name): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Naphthalene Solution)
14.3. Transport Hazard Class(es): 9
14.4. Packing Group: III
14.5. Environmental Hazards: Marine Pollutant
14.6. Special Precautions for users:
Label(s): 9
EMS Number: F-A, S-F
Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Naphthalene Solution), 9, PG III, Marine Pollutant

SEA (MARPOL 73/78 Convention - Annex II):

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not classified according to Annex II

AIR (IATA)

14.1. UN Number: 3082
14.2. UN Proper Shipping Name (Technical Name):

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Naphthalene Solution)

14.3. Transport Hazard Class(es): 9

14.4. Packing Group: III

14.5. Environmental Hazards: Yes

14.6. Special Precautions for users:

Label(s) / Mark(s): 9, EHS

Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Naphthalene Solution), 9, PG III

SECTION 15: REGULATORY INFORMATION

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

HYDROCARBONS, C10, AROMATICS, >1% NAPHTHALENE and HYDROCARBONS, C10 – C13, AROMATICS, >1% NAPHTHALENE are listed under CAS Numbers 64742-94-5 and 91-20-3 on some inventories including TSCA, DSL, AICS, ECL, PICCS, ASIA-PAC, NZIoC.

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Applicable EU Directives and Regulations:

Regulation (EC) No. 1272/2008 (the CLP Regulation)
Regulation (EC) No. 1907/2006 (REACH)
Directive 2006/121/EC
Directive 67/548/EEC
Directive 1992/32/EEC
Directive 1999/45/EC

15.2. CHEMICAL SAFETY ASSESSMENT

REACH Information: A Chemical Safety Assessment has been carried out for HYDROCARBONS, C10, AROMATICS, >1% NAPHTHALENE and HYDROCARBONS, C10 – C13, AROMATICS, >1% NAPHTHALENE by supplier.

SECTION 16: OTHER INFORMATION

REVISION COMMENTS: Safety Data Sheet updated in accordance with ECHA Guidance on compilation of safety data sheets, Sept 2011. All sections have revised information.

R PHRASES (full text):

R22: Harmful if swallowed.
R40: Limited evidence of a carcinogenic effect.
R43: May cause sensitisation by skin contact.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53: Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.
R65: Harmful, may cause damage to lungs if swallowed.
R66: Repeated exposure may cause skin dryness or cracking.
R67: Vapours may cause drowsiness and dizziness.

H STATEMENTS (full text):

Acute Tox. 4 H302: Harmful if swallowed; Acute Tox Oral, Cat 4
Asp. Tox. 1 H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
Skin Sens. 1B H317: May cause an allergic skin reaction.
STOT SE 3 H336: May cause drowsiness or dizziness; Target Organ Single, Narcotic
Carc. 2 H351: Suspected of causing cancer; Carcinogen, Cat 2
STOT RE 2 H373: May cause damage to organs through prolonged or repeated exposure.
Aquatic Chronic 1 H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
Aquatic Chronic 2 H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2
Aquatic Chronic 4 H413: May cause long lasting harmful effects to aquatic life; ; Chronic Env Tox, Cat 4
EUH066: Repeated exposure may cause skin dryness or cracking.

CLASSIFICATION & METHOD TO DETERMINE CLASSIFICATION ACCORDING TO REGULATION (EC) 1272/2008 [CLP]:

Asp. Tox. 1 H304 – Calculation Method
Carc. 2, H351 – Calculation Method
STOT SE 3, H336 – Calculation Method
Aquatic Chronic 2, H411 – Calculation Method

LIST OF ABBREVIATIONS AND ACRONYMS THAT COULD BE (BUT NOT NECESSARILY ARE) USED IN THIS SAFETY DATA SHEET:

AICS	Australian Inventory of Chemical Substances
AIHA WEEL	American Industrial Hygiene Association Workplace Environmental Exposure Limit
ATE	Acute Toxicity Estimate
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ASTM	ASTM International, originally known as the American Society for Testing and Materials (ASTM)
CEN	European Committee for Standardisation
C&L	Classification and Labelling
CLP	Classification Labelling Packaging Regulation ; Regulation (EC) No 1272/2008
CAS#	Chemical Abstracts Service number
COM	European Commission
CMR	Carcinogen, Mutagen, or Reproductive Toxicant
CSA	Chemical Safety Assessment
CSR	Chemical Safety Report
DNEL	Derived No Effect Level
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
DSL	Domestic Substance List (Canada)
DU	Downstream User
DUCC	Downstream Users of Chemicals Co-ordination platform
EEA	European Economic Area (EU + Iceland, Liechtenstein and Norway)
ECB	European Chemicals Bureau
ECHA	European Chemicals Agency
EC-Number	EINECS and ELINCS Number (see also EINECS and ELINCS)
EINECS	European Inventory of Existing Commercial Substances
ELINCS	European List of notified Chemical Substances
ENCS	Existing and new Chemical Substances (Japanese inventory)
EN	European Standard
EP	European Parliament
EQS	Environmental Quality Standard
ES	Exposure Scenario
ext-SDS	Extended Safety Data Sheet (SDS with ES attached)
EU	European Union
Euphrac	European Phrase Catalogue
EWG	European Waste Catalogue (replaced by LoW – see below)
GES	Generic Exposure Scenario
GHS	Globally Harmonized System
HH	Human Health
IATA	International Air Transport Association
ICAO-TI	Technical Instructions for the Safe Transport of Dangerous Goods by Air
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMSBC	International Maritime Solid Bulk Cargoes
IT	Information Technology
IUCLID	International Uniform Chemical Information Database
IUPAC	International Union for Pure Applied Chemistry
JRC	Joint Research Centre

KECI	Korean Existing Chemicals Inventory
Kow	octanol-water partition coefficient
LC ₅₀	Lethal Concentration to 50 % of a test population
LD ₅₀	Lethal Dose to 50% of a test population (Median Lethal Dose)
LE	Legal Entity
LoW	List of Wastes (see http://ec.europa.eu/environment/waste/framework/list.htm)
LR	Lead Registrant
M/I	Manufacturer / Importer
MS	Member States
MSDS	Material Safety Data Sheet
N/A	Not applicable
N/D	Not determined
NE	Not established
NDSL	Non-Domestic Substances List (Canada)
NZIoC	New Zealand Inventory of Chemicals
OC	Operational Conditions
OECD	Organization for Economic Co-operation and Development
OECD-WPMNM	OECD Working Party on Manufactured Nanomaterials
OEL	Occupational Exposure Limit
OH	Occupational Health
OR	Only Representative
OSHA	European Agency for Safety and Health at work
PBT	Persistent, Bioaccumulative and Toxic substance
PEC	Predicted Effect Concentration
PICCS	Philippine Inventory of Chemicals and Chemical Substances
PNEC(s)	Predicted No Effect Concentration(s)
PPE	Personal Protection Equipment
(Q)SAR	Qualitative Structure Activity Relationship
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP	REACH Implementation Project
RMM	Risk Management Measure
SC	Supply Chain
SCBA	Self-Contained Breathing Apparatus
SDS	Safety Data Sheet
SIEF	Substance Information Exchange Forum
SME	Small and Medium sized Enterprises
STOT	Specific Target Organ Toxicity
(STOT) RE	Repeated Exposure
(STOT) SE	Single Exposure
SVHC	Substances of Very High Concern
TLV	Threshold Limit Value (American Conference of Governmental Industrial Hygienists)
TSCA	Toxic Substances Control Act (U.S. inventory)
UIC	Union des Industries Chimiques
UN	United Nations
UVCB	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
VCI	Verband der Chemischen Industrie
vPvB	Very Persistent and Very Bioaccumulative

DISCLAIMER:

This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulations. This information is based on our present state of knowledge and is intended to describe the product from the point of view of safety requirements. It should not be construed as guaranteeing specific properties.