

SAFETY DATA SHEET

Creation Date 24-Jul-2007

Revision Date 09-Apr-2014

Revision Number 1

1. Identification

Product Name TYPE D SOLVENT
Product Code: IU-DSQT, IU-DSQTH, IU-DSGL

Recommended Use Printing Ink Solvent
Uses advised against No Information available

Details of the supplier of the safety data sheet

Manufacturer/Supplier
Universal Stenciling & Marking Systems, Inc.
205 15th Avenue S.E.
Saint Petersburg, FL 33701
Telephone: (727) 894-3027
Emergency phone number: Chemtrec
800-424-9300 (US only)
1+703-527-3887 International

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 4
Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Central nervous system (CNS).	
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Liver, Kidney, Blood.	

Label Elements

Signal Word
Warning

Hazard Statements
Combustible liquid

Harmful if swallowed
 Harmful in contact with skin
 Harmful if inhaled
 Causes skin irritation
 Causes serious eye irritation
 May cause drowsiness or dizziness
 May cause damage to organs through prolonged or repeated exposure



Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear protective gloves/protective clothing/eye protection/face protection
 Use only outdoors or in a well-ventilated area
 Do not breathe dust/fume/gas/mist/vapors/spray
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 Keep cool

Response

Get medical attention/advice if you feel unwell

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician if you feel unwell

Skin

IF ON SKIN: Wash with plenty of soap and water
 Call a POISON CENTER or doctor/physician if you feel unwell
 If skin irritation occurs: Get medical advice/attention
 Take off contaminated clothing and wash before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention.

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage

Store in a well-ventilated place. Keep container tightly closed
 Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition / information on ingredients

Haz/Non-haz

Component	CAS-No	Weight %
2-Butoxyethanol	111-76-2	>95

4. First-aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.
Ingestion	Do not induce vomiting. Call a physician or Poison Control Center immediately.
Most important symptoms/effects	Breathing difficulties. . Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Notes to Physician	Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media	Water spray. Carbon dioxide (CO ₂). Dry chemical. chemical foam. Cool closed containers exposed to fire with water spray.
Unsuitable Extinguishing Media	No information available.
Flash Point	62°C / 143.6°F
Method -	Pensky Martens Closed Cup (ASTM D93, BS EN 22719, BS 2000 Part 404, IP 404, ISO 2719, AS/NZS 2106)
Autoignition Temperature	230°C / 446°F
Explosion Limits	
Upper	12.7% @ 135°C
Lower	1.1% @ 93°C
Oxidizing Properties	Not oxidising
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical
 Combustible material. Containers may explode when heated. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Vapors may form explosive mixtures with air.

Hazardous Combustion Products Carbon monoxide (CO), Carbon dioxide (CO₂), peroxides.

Protective Equipment and Precautions for Firefighters
 As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
3	2	0	N/A

6. Accidental release measures

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Personal Precautions	Use personal protective equipment. Evacuate personnel to safe areas. Remove all sources of ignition. Avoid contact with skin, eyes and clothing.
Environmental Precautions	Avoid release to the environment. See Section 12 for additional ecological Information.
Methods for Containment and Clean Up	Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling	Wear personal protective equipment. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Do not ingest.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Protect from light. Protect from moisture. Reacts with air to form peroxides.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
2-Butoxyethanol	TWA: 20 ppm	(Vacated) TWA: 25 ppm (Vacated) TWA: 120 mg/m ³ Skin TWA: 50 ppm TWA: 240 mg/m ³	IDLH: 700 ppm TWA: 5 ppm TWA: 24 mg/m ³

Component	Quebec	Mexico OEL (TWA)	Ontario TWA EV
2-Butoxyethanol	TWA: 20 ppm TWA: 97 mg/m ³	TWA: 26 ppm TWA: 120 mg/m ³ STEL: 75 ppm STEL: 360 mg/m ³	TWA: 20 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures	Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.
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Personal Protective Equipment

Eye/face Protection	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166
Skin and body protection	Wear appropriate protective gloves and clothing to prevent skin exposure.
Respiratory Protection	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice

9. Physical and chemical properties

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Physical State	Liquid
Appearance	Light yellow
Odor	slight
Odor Threshold	No information available.
pH	No information available.
Melting Point/Range	-70°C / -94°F
Boiling Point/Range	171°C / 339.8°F
Flash Point	62°C / 143.6°F
Method -	Pensky Martens Closed Cup (ASTM D93, BS EN 22719, BS 2000 Part 404, IP 404, ISO 2719, AS/NZS 2106)
Evaporation Rate	No information available.
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	12.7% @ 135°C
Lower	1.1% @ 93°C
Vapor Pressure	0.8 hPa @ 20°C
Vapor Density	No information available.
Relative Density	0.901
Solubility	No information available.
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	230°C / 446°F
Decomposition temperature	No information available.
Viscosity	5.31 mPa.s at 20 °C
Molecular Formula	C6 H14 O2
Molecular Weight	118.18

10. Stability and reactivity

Reactive Hazard	None known, based on information available.
Stability	Stable under normal conditions. Air sensitive. Light sensitive.
Conditions to Avoid	Incompatible products. Keep away from open flames, hot surfaces and sources of ignition. Extremes of temperature and direct sunlight. Exposure to air or moisture over prolonged periods.
Incompatible Materials	Strong oxidizing agents, Bases, Metals, Aluminium
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂), peroxides
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	May form explosive peroxides..

11. Toxicological information

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-Butoxyethanol	1746 mg/kg (Rat)	220 mg/kg (Rabbit)	450 ppm (Rat) 4 h

Toxicologically Synergistic Products No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation	Irritating to eyes and skin
Sensitization	No information available.
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
2-Butoxyethanol	111-76-2	Not listed	Not listed	A3	Not listed	Not listed

Mutagenic Effects	Mutagenic effects have occurred in experimental animals.
Reproductive Effects	Experiments have shown reproductive toxicity effects on laboratory animals.
Developmental Effects	Developmental effects have occurred in experimental animals.
Teratogenicity	Teratogenic effects have occurred in experimental animals..
STOT - single exposure	Central nervous system (CNS).
STOT - repeated exposure	Liver, Kidney, Blood.
Aspiration hazard	No information available.
Symptoms / effects, both acute and delayed	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Endocrine Disruptor Information	No information available
Other Adverse Effects	Tumorigenic effects have been reported in experimental animals.. See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity

. Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
2-Butoxyethanol	1840 mg/l EC50 72 hr	1490 mg/L LC50 96 h 2950 mg/L LC50 96 h	Not listed	1550 mg/l EC50 48 hr >1000 mg/L EC50 48 h 1698 - 1940 mg/L EC50 24 h

Persistence and Degradability Soluble in water, Persistence is unlikely, based on information available.

Bioaccumulation/ Accumulation No information available

Mobility . Will likely be mobile in the environment due to its water solubility.

Component	log Pow
2-Butoxyethanol	0.81

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

14. Transport information

DOT Not regulated
TDG Not regulated
IATA Not regulated
IMDG/IMO Not regulated

15. Regulatory information

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
2-Butoxyethanol	X	X	-	203-905-0	-		X	X	X	X	X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
2-Butoxyethanol	111-76-2	>95	1.0

SARA 311/312 Hazardous Categorization

Acute Health Hazard Yes
 Chronic Health Hazard No
 Fire Hazard Yes
 Sudden Release of Pressure Hazard No
 Reactive Hazard No

Clean Water Act Not applicable

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
2-Butoxyethanol	X		-

OSHA Occupational Safety and Health Administration
 Not applicable

CERCLA
Not Applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
2-Butoxyethanol	X	X	X	X	X

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class B3 Combustible liquid
D1A Very toxic materials
D2B Toxic materials



16. Other information

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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS