

UV PROCESS SUPPLY, INC

Safety Data Sheet

Dyne Solutions and Pens, Level 51-70 Dyne

SECTION 1: Identification

1.1 Product identifier

Product name Dyne Solutions and Pens with level of 51 - 70 dyne

Product number(s) N001-012, N001-013, N001-015, N001-011,
In all products listed above, this SDS is applicable only if the dyne level is above 50 dyne, (levels 51 through 70)

1.4 Supplier's details

Name UV Process Supply, Inc
Address 1229 W. Cortland Street
Chicago, IL 60614
USA

Telephone 773-248-0099
Fax 773-880-6647
email info@uvps.com

1.5 Emergency phone number(s)

800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

- Toxic to reproduction (chapter 3.7), Cat. 2

2.2 GHS label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H360 May damage fertility or the unborn child

Precautionary statement(s)

P201 Obtain special instructions before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P312 Call a POISON CENTER/doctor if you feel unwell.
P405 Store locked up.
P501 Dispose of contents/container to hazardous or special waster collection point, in accordance with local, regional, national and/or international regulation
P202 Do not handle until all safety precautions have been read and understood.

2.3 Other hazards which do not result in classification

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Formula Dyne information will vary with the dyne number, dyne 51 is approx. 93% Formamide, 7% EE, dynes 51-56 consists of a mixture of formamide and EE, dyne 57 is 100% formamide, dyne 58 and above consists of a mixture of formamide and water.

Hazardous components

1. Formamide

Concentration $\geq 4 - \leq 100$ % (Volume)
EC no. 200-842-0
CAS no. 75-12-7
Index no. 616-052-00-8

2. Glycol Ether EE

Concentration $\geq 0 - \leq 7$ % (Volume)
EC no. 203-804-1
CAS no. 110-80-5

3. WATER

Concentration $\leq 0 - \leq 96$ %
CAS no. 7732-18-5

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled Seek prompt medical attention. Remove victim to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.

In case of skin contact Remove contaminated clothing and shoes. Wash affected areas with plenty of running water, preferably under a shower. Seek prompt medical attention.

In case of eye contact Immediately flush with plenty of running water for at least 15 minutes, keeping eyelids open. Remove contact lenses if easy to do. Seek prompt medical attention.

If swallowed Seek prompt medical attention. Do not induce vomiting. Vomiting should only be induced by medical personnel. If vomiting occurs, keep the head lower than chest to avoid aspiration into the lungs. Never give anything by mouth to an unconscious or convulsing person

4.2 Most important symptoms/effects, acute and delayed

May damage the unborn child

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Never give anything by mouth to an unconscious person. If exposed or concerned; get medical advice.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

In case of fire, use: Alcohol resistant foam. Water spray. Carbon dioxide (CO₂). Dry chemical powder.

5.2 Specific hazards arising from the chemical

Under fire conditions, hazardous fumes will be presents

5.3 Special protective actions for fire-fighters

Water jets should not be used directly on igniting products because it may disperse the material and intensify the fire. Self-contained breathing apparatus and protective clothing are required. Cool the intact fire-exposed containers with water spray and remove them.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Isolate and signalize area. Keep heat and/or ignition sources away. Use personal protection equipment as indicated in Section 8, in order to avoid contact with spilled product.

6.2 Environmental precautions

Prevent product from entering into soil and waterways. Notify the competent authorities if the product enters sewers or public waters.

6.3 Methods and materials for containment and cleaning up

Stop if possible. Contain and dike spilled product with earth or sand. Transfer to proper container. Collect remnants with an appropriate absorbent material. Wash the contaminated surface with water, which should be collected for disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use in a well-ventilated area. Avoid inhalation and contact with eyes, skin or clothing through proper protection. If occurs accidental contact, exposed area should be washed immediately. Emergency eyewashes and showers shall be located in accessible locations. Wash hands and face thoroughly after handling. Wash contaminated clothing before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Specific end use(s)

None

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Glycol Ether EE (CAS: 110-80-5)

TLV® (Dermal): 5 ppm (ACGIH)

2. Glycol Ether EE (CAS: 110-80-5 EC: 203-804-1)

PEL-TWA (Dermal): 200ppm (OSHA)

3. Glycol Ether EE (CAS: 110-80-5 EC: 203-804-1)

TLV®: Not established (ACGIH)

Safety Data Sheet

Dyne Solutions 51-70

4. Glycol Ether EE (CAS: 110-80-5 EC: 203-804-1)

LT (NR15) 78ppm/290mg/m³

5. Glycol Ether EE (CAS: 110-80-5 EC: 203-804-1)

Odor Threshold 1,22 ppm

6. Glycol Ether EE (CAS: 110-80-5 EC: 203-804-1)

IDLH 6000ppm

7. Formamide (CAS: 75-12-7 EC: 200-842-0)

Not listed

8.2 Appropriate engineering controls

In closed environments, this product should be handled keeping proper exhaust (general diluter or local exhaust-er).

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Chemical goggles or safety glasses.

Skin protection

PVC apron. It is recommended to adopt safety boots/shoes.

Body protection

Wear protective gloves and an apron.

Respiratory protection

In case of emergency or contact with high concentrations of the product, wear an air supplied mask or self contained breathing apparatus. It is recommended to wear face mask with organic vapors cartridge in case of exposure to vapors/aerosols.

Environmental exposure controls

No data available

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form	Blue or Red liquid
Odor	Solvent type to Odorless
Odor threshold	N/A
pH	N/A
Melting point/freezing point	N/A
Initial boiling point and boiling range	111 to 135.6 deg C
Flash point	108 deg F to 175 deg F
Evaporation rate	Butyl Acetate = 1, 0.41
Flammability (solid, gas)	N/A
Upper/lower flammability limits	LEL: 1.7%, UEL: 19%, by volume
Upper/lower explosive limits	N/A
Vapor pressure	0.8 - 4 mmHg @ 20 deg. C
Vapor density	3.1
Relative density	N/A
Solubility(ies)	Water: 5% to 100%
Partition coefficient: n-octanol/water	N/A
Auto-ignition temperature	N/A
Decomposition temperature	N/A
Viscosity	N/A
Explosive properties	N/A
Oxidizing properties	N/A

SECTION 10: Stability and reactivity

10.2 Chemical stability

Stable under normal conditions of use and storage

10.3 Possibility of hazardous reactions

Not established

10.4 Conditions to avoid

Direct sunlight. Extremely high or low temperatures

10.5 Incompatible materials

Avoid contact with: Strong bases. Strong acids.

10.6 Hazardous decomposition products

In case of combustion, it may generate carbon monoxide, besides CO₂. In case of combustion may generate toxic and/or irritant fumes containing: Nitrous gases. Persons who may have inhaled nitrous gases are to be laid down and kept rested. Call a doctor immediately.

Carbon monoxide. Oxides of nitrogen.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Glycol Ether EE

Acute Toxicity Oral

LD50, rat: 2125 mg/kg. LD50, mouse: 2451 mg/kg. LD50, rabbit: 1275 mg/kg. Moderately toxic.

Inhalation

CL50, 7h, rat: 2000 mg/L. CL50, 7h, mouse: 1820 ppm. Moderately toxic.

Formamide:

Based on available data, the classification criteria are not met

Skin corrosion/irritation

Glycol Ether EE

May be absorbed through the skin. LD50, rabbit: 3300 mg/kg. LD50, rat: 3900 mg/kg.

Serious eye damage/irritation

Slightly to moderately irritating. Slight to moderate irritation

Respiratory or skin sensitization

Not available.

Germ cell mutagenicity

Not available.

Carcinogenicity

Mutagen Test (E.coli) OECD 472: negative.

Repeated exposures of rats, rabbits and guinea pigs to the inhalation of the product in concentrations above 400 ppm showed effects on the respiratory system, blood and urinary system of these animals; administered orally in elevated doses and for up to 13 weeks, showed effect on the blood, endocrine system and the weight of animals of the same species. Other effects observed were alteration in the female menstrual cycle and in the weight of the male testicles. The product did not show mutagenic in the Ames' tests. However, at high concentrations (above 860 ppm) and in elevated doses (23400 mg/kg) showed some mutagenic activity on hamsters and rats. Administered to rats, rabbits and mice through inhalation, in concentrations above 100 ppm, or orally in doses above 500 mg/kg,

Safety Data Sheet

Dyne Solutions 51-70

showed effects on the reproductive system including reduction of female fertility, male sperm morphology, increase of mortality of embryos and delay in the growth of off springs. There are no records of carcinogenic activity of the product. It is recommended that exposure to the product be minimized, principally at elevated concentrations.

Reproductive toxicity

Not available.

STOT-single exposure

Not available.

STOT-repeated exposure

Not available.

Aspiration hazard

Not available.

SECTION 12: Ecological information

Toxicity

It has low toxicity to aquatic life. The smell and taste of the product may attract animals with consequent consumption of the released product.

Algae: EC₀, *Desmodesmus subspicatus*: >1.000 mg/L.

Invertebrates:

EC₅₀, 48h, Crustacea: 1905 mg/L (EPA/600/4-90/02F). EC₅₀, 48h, *Daphnia magna*: > 10.000 mg/L (DIN 38412 - 11).

Fish:

LC₀, *Leuciscus idus*: > 10.000 mg/L.

LC₅₀, 24h, *Carassius auratus*: > 5000 mg/L (APHA 231). LC₅₀, 48h, *Lepomis macrochirus*: >10.000 mg/L.

Persistence and degradability

Slowly biodegradable. OECD 301: 100% in 14 days. BOD₅: 65% 24 hours (adapted environment).

Bioaccumulative potential

It is not expected to bioaccumulate in the environment.

Mobility in soil

The product is highly soluble in water. It is expected to have high mobility in soil. It is poorly absorbed from the soil or sediment. Volatization coming from dry ground surface is expected.

Other adverse effects

This product is expected to exist exclusively as vapor in the atmospheric environment. Vapor phase is degraded in the atmosphere through the reaction with photo-chemicals

SECTION 13: Disposal considerations

Disposal of the product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Disposal of contaminated packaging

Do not cut or pierce the packaging, nor do hot work near them. Do not remove labels until the product has been fully removed and the packaging cleaned. The preferred options for disposal include reuse, recycling or reclamation at licensed facilities. All procedures must follow specific operation standards in order to reduce health, safety and environmental risks. The disposal must comply with local legislation and in accordance with standards from local environmental agencies.

Safety Data Sheet

Dyne Solutions 51-70

SECTION 14: Transport information

DOT (US)

UN Number: Not a dangerous goods
Class: N/A
Packing Group: N/A
Proper Shipping Name: N/A
Reportable quantity (RQ): N/A
Marine pollutant: N/A
Poison inhalation hazard: N/A

IMDG

UN Number: N/A
Class: N/A
Packing Group: N/A
EMS Number: N/A
Proper Shipping Name: N/A

IATA

UN Number: N/A
Class: N/A
Packing Group: N/A
Proper Shipping Name: N/A

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

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

Ensure all national/local regulations are observed.

REACH Restrictions - Annex XVII

With the exception of those listed below: The components of this product are not subject to restrictions. Annex XVII

REACH Authorisation - Annex XIV

The components of this product are not subject to authorization

TSCA Inventory

Glycol Ether EE, All ingredients are listed on the TSCA inventory

DSCL (EEC)

Glycol Ether EE, All ingredients are listed on the DSCL inventory

SARA 302 Components

Not listed

SARA 304 Components

Not listed

SARA 311/312 Hazards

2-Ethoxyethanol

SARA 313 Components

Listed; 2-Ethoxyethanol

WHMIS Canada

Glycol Ether EE CLASS B-3: Combustible liquid with a flash point between 37.8 deg C (100 degF) and 93.3 deg C (200 deg. F) CLASS D-2A, Material causing other toxic effect (VERY TOXIC)

15.2 Chemical Safety Assessment

It has not been carried out.

Safety Data Sheet

Dyne Solutions 51-70

Caution: HMIS ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks although HMIS ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS ratings are to be used with a fully implemented HMIS program. HMIS is a registered mark of the National Paint and Coatings Association (NPCA).

Reprinted with permission from NFPA 704-2001, Identification of Hazards of Materials for Emergency Response copyright 1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is no the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright 2001 National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

HMIS Rating

Dyne Solutions 51-70	
HEALTH	0
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	B

NFPA Rating



SECTION 16: Other information

16.1 Further information/disclaimer

The data contained herein is drawn from recognized sources and believed to be accurate as the date of issue. This information is intended for use by persons who have or should obtain professional knowledge and experience in the subjects discussed, and is presented only for your evaluation of the suitability of this product for your use, and for compliance with Federal and State regulations. The manufacturer makes no warranty, express or implied, and disclaims all liability for the accuracy, completeness, and reliability of any information contained herein.

16.2 Preparation information

Prepared by: Wayne Benz
Date: 11/18/2015

Revised by: UV Process Supply, Inc
Date: 12/16/2015

Revision details: Supplier contact information modified section 1.4, Product numbers added to section 1.1