

SAFETY DATA SHEET

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2.6

1. IDENTIFICATION

Product identifier

Product code IN-ADE-20
Product name Brilliant Orange
Product category ADE Series 2 Part Epoxy Paste Ink

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Industrial Printing Operations

Manufactured for:

Hitt Marking Devices
3231 W. MacArthur Blvd.
Santa Ana, CA 92704
Tel: 714-979-1405
Fax: 714-979-1407
www.HittMarking.com

Emergency telephone number

USA: Chemtrec: 800-424-9300
Outside USA: Chemtrec: 703-527-3887
24 Hour Emergency Phone Number

2. HAZARDS IDENTIFICATION

Classification

Serious eye damage/eye irritation	Category 2 - (H319)
Skin sensitization	Category 1 - (H317)
Flammable liquids	Category 3 - (H226)

Label elements



Signal word
Warning

Hazard statements

H226 - Flammable liquid and vapor
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation

Precautionary Statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P337 + P313 - If eye irritation persists: Get medical advice/attention
P403 + P235 - Store in a well-ventilated place. Keep cool

Hazards not otherwise classified (HNOC)

Causes mild skin irritation.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Mixture**

Chemical name	CAS No	Weight-%	Trade secret	Note
Resin	Not Available	30 - 60	*	
Dipropylene glycol monomethyl ether	34590-94-8	10 - 30	*	
Diacetone alcohol	123-42-2	5 - 10	*	
Propylene glycol monomethyl ether	107-98-2	5 - 10	*	
2-Butoxyethanol	111-76-2	1 - 5	*	
Additive	Not Available	0.1 - < 1	*	

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES**Description of first aid measures****General Advice**

Show this safety data sheet to the doctor in attendance.

Eye Contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists.

Skin Contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation (redness, rash, blistering) develops, get medical attention.

Inhalation

If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately. Remove person to fresh air and keep comfortable for breathing.

Ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Most important symptoms and effects, both acute and delayed

None under normal use conditions.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

No information available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. May emit toxic fumes under fire conditions.

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. Sealed containers may rupture when heated. Cool containers / tanks with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures**Personal Precautions**

Evacuate personnel to safe areas. Remove all sources of ignition. Keep people away from and upwind of spill/leak. Avoid contact with eyes, skin and clothing. Ventilate the area. Avoid breathing dust or vapor.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Keep out of drains, sewers, ditches and waterways.

Methods and material for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Use clean non-sparking tools to collect absorbed material.

7. HANDLING AND STORAGE**Precautions for safe handling****Handling**

Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Use personal protective equipment as required.

Conditions for safe storage, including any incompatibilities**Storage**

Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use.

Incompatible Products

Strong oxidizing agents. Strong acids. Strong bases. Reducing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure limits**

Chemical name	ACGIH TLV
Dipropylene glycol monomethyl ether 34590-94-8	TWA: 50 ppm
Diacetone alcohol 123-42-2	TWA: 50 ppm
Propylene glycol monomethyl ether 107-98-2	TWA: 50 ppm STEL: 100 ppm
2-Butoxyethanol 111-76-2	TWA: 20 ppm

Chemical name	OSHA PEL
Dipropylene glycol monomethyl ether 34590-94-8	TWA: 100 ppm TWA: 600 mg/m ³ Skin
Diacetone alcohol 123-42-2	TWA: 50 ppm TWA: 240 mg/m ³
2-Butoxyethanol 111-76-2	TWA: 50 ppm TWA: 240 mg/m ³ Skin

Chemical name	OSHA PEL (vacated)
Dipropylene glycol monomethyl ether 34590-94-8	TWA: 100 ppm TWA: 600 mg/m ³ STEL: 150 ppm STEL: 900 mg/m ³ Skin
Diacetone alcohol 123-42-2	TWA: 50 ppm TWA: 240 mg/m ³

Propylene glycol monomethyl ether 107-98-2	TWA: 100 ppm TWA: 360 mg/m ³ STEL: 150 ppm STEL: 540 mg/m ³
2-Butoxyethanol 111-76-2	TWA: 25 ppm TWA: 120 mg/m ³ Skin

Chemical name	Ontario TWAEV
Dipropylene glycol monomethyl ether 34590-94-8	TWA: 100 ppm STEL: 150 ppm Skin
Diacetone alcohol 123-42-2	TWA: 50 ppm
Propylene glycol monomethyl ether 107-98-2	TWA: 50 ppm STEL: 100 ppm
2-Butoxyethanol 111-76-2	TWA: 20 ppm

Chemical name	Mexico OEL (TWA)
Dipropylene glycol monomethyl ether 34590-94-8	TWA/VLE-PPT: 100 ppm STEL/PPT-CT: 150 ppm
Diacetone alcohol 123-42-2	TWA/VLE-PPT: 50 ppm
Propylene glycol monomethyl ether 107-98-2	TWA/VLE-PPT: 100 ppm STEL/PPT-CT: 150 ppm
2-Butoxyethanol 111-76-2	TWA/VLE-PPT: 20 ppm

Appropriate engineering controls

Engineering Measures

In case of insufficient ventilation, wear suitable respiratory equipment. Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Users are advised to consider national Occupational Exposure Limits or other equivalent values.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Wear safety glasses with side shields (or goggles). Ensure that eyewash stations and safety showers are close to the workstation location. If splashes are likely to occur: Wear suitable face shield.

Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hand Protection

Chemical resistant protective gloves.
Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding >480 minutes of permeation time): eg. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other
Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers. Taking into account the varying conditions, the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.
Due to different glove types, the manufacturer's directions for use should be observed. Replace gloves immediately when torn or any change in appearance is noticed such as dimension, color, flexibility.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

eyes, skin and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before eating, drinking or smoking. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Appearance	Colored
Odor	Characteristic	Odor Threshold	No information available

Property	Values	Remarks • Method
pH		No data available
Melting Point / Freezing Point	No information available	No data available
Boiling Point / Boiling Range	> 100 °C / 212 °F	
Flash Point	52 °C / 125 °F	Setaflash closed cup
Evaporation rate		No data available
Flammability Limit in Air		
Upper flammability limit		No data available
Lower flammability limit		No data available
Vapor Pressure		No data available
Vapor Density		No data available
Specific Gravity	1.11	
Water Solubility		No data available
Solubility in other solvents		No data available
Partition coefficient: n-octanol/water		No data available
Autoignition Temperature	No information available	No data available
Hyphen		No data available
Kinematic viscosity		No data available
Dynamic viscosity		No data available

Explosive Properties	No data available
Oxidizing Properties	No data available

Other information

Photochemically Reactive	No
Weight Per Gallon (lbs/gal)	9.24

VOC by weight % (less water)	VOC by volume % (less water)	VOC lbs/gal (less water)	VOC grams/liter (less water)
34.13	35.46	3.16	378.19

10. STABILITY AND REACTIVITY

Reactivity

No information available.

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases. Reducing agent.

Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide. Carbon dioxide (CO₂).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Specific test data for the substance or mixture is not available.
Eye Contact	Specific test data for the substance or mixture is not available.
Skin Contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Chemical name	Oral LD50
Dipropylene glycol monomethyl ether 34590-94-8	= 5.35 g/kg (Rat)
Diacetone alcohol 123-42-2	> 4 g/kg (Rat)
Propylene glycol monomethyl ether 107-98-2	= 5000 mg/kg (Rat)
2-Butoxyethanol 111-76-2	= 470 mg/kg (Rat)
Additive	> 3200 mg/kg (Rat)

Chemical name	Dermal LD50
Dipropylene glycol monomethyl ether 34590-94-8	= 9500 mg/kg (Rabbit)
Diacetone alcohol 123-42-2	= 13630 mg/kg (Rabbit)
Propylene glycol monomethyl ether 107-98-2	= 13 g/kg (Rabbit)
2-Butoxyethanol 111-76-2	= 435 mg/kg (Rabbit)
Additive	> 2000 mg/kg (Rabbit)

Chemical name	Inhalation LC50
Diacetone alcohol 123-42-2	> 7.23 g/m ³ (Rat) 8 h
Propylene glycol monomethyl ether 107-98-2	> 7559 ppm (Rat) 6 h
2-Butoxyethanol 111-76-2	= 450 ppm (Rat) 4 h = 486 ppm (Rat) 4 h
Additive	> 5.3 mg/L (Rat) 6 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Specific test data for the substance or mixture is not available.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Specific test data for the substance or mixture is not available.
Eye damage/irritation	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components).
Irritation	Specific test data for the substance or mixture is not available.
Corrosivity	Specific test data for the substance or mixture is not available.
Sensitization	Specific test data for the substance or mixture is not available. May cause an allergic skin reaction. (based on components).
Mutagenic Effects	Specific test data for the substance or mixture is not available.
Carcinogenic effects	Specific test data for the substance or mixture is not available.
Reproductive Effects	Specific test data for the substance or mixture is not available.
STOT - single exposure	Specific test data for the substance or mixture is not available.
STOT - repeated exposure	Specific test data for the substance or mixture is not available.
Chronic Toxicity	Specific test data for the substance or mixture is not available.
Aspiration hazard	Specific test data for the substance or mixture is not available.
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH
2-Butoxyethanol 111-76-2	A3

Numerical measures of toxicity - Product Information

Unknown acute toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	39,344.30 mg/kg
ATEmix (inhalation-dust/mist)	49.20 mg/l
ATEmix (inhalation-vapor)	360.70 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Specific test data for the substance or mixture is not available.

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Fish
Dipropylene glycol monomethyl ether 34590-94-8	96h LC50 Pimephales promelas: > 10000 mg/L (static)
Diacetone alcohol 123-42-2	96h LC50 Lepomis macrochirus: = 420 mg/L (static) 96h LC50 Lepomis macrochirus: = 420 mg/L
Propylene glycol monomethyl ether 107-98-2	96h LC50 Pimephales promelas: = 20.8 g/L (static)
2-Butoxyethanol 111-76-2	96h LC50 Lepomis macrochirus: = 1490 mg/L (static) 96h LC50 Lepomis macrochirus: = 2950 mg/L
2,2,4-trimethyl-1,3-pentanediol diisobutyrate 6846-50-0	96h LC50 Pimephales promelas: > 1.55 mg/L (static)

Chemical name	Crustacea
Dipropylene glycol monomethyl ether 34590-94-8	48h LC50 Daphnia magna: = 1919 mg/L
Propylene glycol monomethyl ether 107-98-2	48h EC50 Daphnia magna: = 23300 mg/L
2-Butoxyethanol 111-76-2	48h EC50 Daphnia magna: > 1000 mg/L
2,2,4-trimethyl-1,3-pentanediol diisobutyrate 6846-50-0	48h EC50 Daphnia magna: > 1.46 mg/L

Persistence and Degradability

No information available.

Bioaccumulation

Chemical name	Partition coefficient
Dipropylene glycol monomethyl ether 34590-94-8	-0.064
Diacetone alcohol 123-42-2	1.03
Propylene glycol monomethyl ether 107-98-2	-0.437
2-Butoxyethanol 111-76-2	0.81

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods

Contain and dispose of waste according to local regulations.

Contaminated Packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

Note:

This information is not intended to convey all specific transportation requirements relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation information can be found in the specific regulations for your mode of transportation. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

DOT

In the U.S. and Canada, this material may be reclassified as a combustible liquid and is not regulated, via surface transportation, in containers less than 119 gallons or 450 liters [per 49 CFR 173.150 (f)] [per Transportation of Dangerous Goods Regulations/Clear Language Part 1.33].

UN/ID no	UN1210
Proper Shipping Name	Printing Ink
Transport hazard class(es)	3
Packing Group	III

ICAO / IATA / IMDG / IMO

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15. REGULATORY INFORMATION

International Inventories

For further information, please contact:. All components are listed on the TSCA Inventory. Supplier (manufacturer/importer/downstream user/distributor).

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
2-Butoxyethanol	111-76-2	1 - 5	1.0

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

US State Regulations

Chemical name	Massachusetts
Dipropylene glycol monomethyl ether 34590-94-8	X
Diacetone alcohol 123-42-2	X

Propylene glycol monomethyl ether 107-98-2	X
2-Butoxyethanol 111-76-2	X

Chemical name	Minnesota Right To Know
Dipropylene glycol monomethyl ether 34590-94-8	X
Diacetone alcohol 123-42-2	X
Propylene glycol monomethyl ether 107-98-2	X
2-Butoxyethanol 111-76-2	X

Chemical name	New Jersey
Dipropylene glycol monomethyl ether 34590-94-8	X
Diacetone alcohol 123-42-2	X
Propylene glycol monomethyl ether 107-98-2	X
2-Butoxyethanol 111-76-2	X

Chemical name	Pennsylvania
Dipropylene glycol monomethyl ether 34590-94-8	X
Diacetone alcohol 123-42-2	X
Propylene glycol monomethyl ether 107-98-2	X
2-Butoxyethanol 111-76-2	X

California Proposition 65

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects

Canada

Chemical name	NPRI - National Pollutant Release Inventory
Dipropylene glycol monomethyl ether 34590-94-8	Part 5, Other Groups and Mixtures (total of CAS 112-07-2, CAS 112-15-2, CAS 112-25-4, CAS 112-34-5, CAS 5131-66-8, CAS 107-98-2, CAS 109-59-1, CAS 111-90-0, CAS 124-17-4, CAS 1569-01-3, CAS 1569-02-4, CAS 2807-30-9, CAS 29911-27-1, CAS 29911-28-2, CAS 34590-94-8, CAS 54839-24-6, CAS 623-84-7, CAS 88917-22-0 and their isomers, listed under Other Glycol ethers and acetates (and their isomers)) Part 4 Substance (as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999)
Diacetone alcohol 123-42-2	Part 4 Substance (as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999)
Propylene glycol monomethyl ether 107-98-2	Part 5, Other Groups and Mixtures (total of CAS 112-07-2, CAS 112-15-2, CAS 112-25-4, CAS 112-34-5, CAS 5131-66-8, CAS 107-98-2, CAS 109-59-1, CAS 111-90-0, CAS 124-17-4, CAS 1569-01-3, CAS 1569-02-4, CAS 2807-30-9, CAS 29911-27-1, CAS 29911-28-2, CAS 34590-94-8, CAS 54839-24-6, CAS 623-84-7, CAS 88917-22-0 and their isomers, listed under Other Glycol ethers and acetates (and their isomers)) Part 4 Substance (as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999)
2-Butoxyethanol 111-76-2	Part 1, Group A Substance; Part 5, Individual Substances Part 4 Substance (as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999)

16. OTHER INFORMATION

HMIS	Health hazards	Flammability	Reactivity	Personal Protection
	1 *	1	0	X

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)
STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
Group 3 - Not Classifiable as to Carcinogenicity in Humans

NTP: (National Toxicity Program)

Known - Known Carcinogen
Reasonably Anticipated to be a Human Carcinogen

OSHA: (Occupational Safety & Health Administration)

X - Present

Revision Date Jan-16-2023

Pursuant to NOM-018-STPS-2015

This information within is considered correct but is not exhaustive and will be used for guidance only, which is based on the current knowledge of the substance or mixture and is applicable to the appropriate safety precautions for the product.

Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet