

SAFETY DATA SHEET

Print Date May-31-2015 Revision Date May-30-2015 Revision Number

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier Product code Product name Product category

59LF132 Lemon Yellow 59000 Series Enamel Plus Gloss Screen Ink

Other means of identification Synonyms

Recommended use of the chemical and restrictions on useRecommended usePrinting operations

None

Details of the supplier of the safety data sheet

UNITED STATES Nazdar Company 8501 Hedge Lane Terrace Shawnee, KS 66227 Tel: 1-913-422-1888 Tel: 1-800-677-4657 Fax: 1-913-422-2294 www.nazdar.com UNITED KINGDOM Nazdar Limited Barton Road Heaton Mersey Stockport, England SK4 3EG Tel: +44 161 442 2111

Emergency telephone number

USA: Chemtrec: 1-800-424-9300 Outside USA: Chemtrec: 1-703-527-3887 24 Hour Emergency Phone Number

2. HAZARDS IDENTIFICATION

Classification

Aspiration toxicity	Category 1 - (H304)
Flammable liquids	Category 3 - (H226)

Label elements



Danger

Hazard Statements

H304 - May be fatal if swallowed and enters airways H226 - Flammable liquid and vapor EUH208 - May produce an allergic reaction

P331 - Do NOT induce vomiting

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Hazards not otherwise classified (HNOC)

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Component	CAS-No	Weight %	Trade Secret	Note
Stoddard solvent	8052-41-3	10 - 30	*	
Barium sulfate	7727-43-7	10 - 30	*	
Titanium dioxide	13463-67-7	1 - 5	*	
Naphtha (petroleum), heavy aromatic	64742-94-5	1 - 5	*	
Xylenes (o-, m-, p- isomers)	1330-20-7	1 - 5	*	
Naphthalene (constituent)	91-20-3	< 0.5	*	1
Ethyl benzene (constituent)	100-41-4	< 0.5	*	1
Crystalline silica (cristobalite)	14464-46-1	< 0.5	*	
Cobalt Compounds	Trade Secret	< 0.5	*	

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

Note 1. Type of chemical: Constituent

4. FIRST AID MEASURES

Description of first aid measures

General Advice Eye Contact	Show this safety data sheet to the doctor in attendance. 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	Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.
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

Foam. Carbon dioxide (CO2). Dry chemical. Water spray. 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. Cool containers / tanks with water spray. Sealed containers may rupture when heated.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions

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

Environmental precautions

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

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	Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Ensure adequate ventilation.		
Conditions for safe storage, including any incompatibilities			
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep container closed when not in use. Keep out of the reach of children.		
Incompatible Products	Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.		

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

Component	ACGIH TLV
Stoddard solvent 8052-41-3	TWA: 100 ppm
Barium sulfate 7727-43-7	TWA: 10 mg/m ³
Titanium dioxide 13463-67-7	TWA: 10 mg/m ³
Xylenes (o-, m-, p- isomers) 1330-20-7	TWA: 100 ppm STEL: 150 ppm
Naphthalene (constituent) 91-20-3	TWA: 10 ppm STEL: 15 ppm Skin
Ethyl benzene (constituent) 100-41-4	TWA: 20 ppm
Crystalline silica (cristobalite) 14464-46-1	TWA: 0.025 mg/m ³ (respirable fraction)

Component	OSHA PEL	
Stoddard solvent	TWA: 100 ppm	
8052-41-3	TWA: 525 mg/m ³	
	TWA: 500 ppm	
	TWA: 2900 mg/m ³	
Barium sulfate	TWA: 10 mg/m ³ (total dust)	
7727-43-7	TWA: 5 mg/m ³ (respirable fraction)	
	TWA: 15 mg/m ³ (total dust)	

Crystalline silica (cristobalite) 14464-46-1	STEL: 545 mg/m ³ TWA: 0.05 mg/m ³ (respirable dust)
Ethyl benzene (constituent) 100-41-4	TWA: 100 ppm TWA: 435 mg/m ³ STEL: 125 ppm
Naphthalene (constituent) 91-20-3	TWA: 10 ppm TWA: 50 mg/m ³ STEL: 15 ppm STEL: 75 mg/m ³
Xylenes (o-, m-, p- isomers) 1330-20-7	TWA: 100 ppm TWA: 435 mg/m ³ STEL: 150 ppm STEL: 655 mg/m ³
Titanium dioxide 13463-67-7	TWA: 10 mg/m³ (total dust) TWA: 15 mg/m³ (total dust)

Component	Ontario TWAEV
Stoddard solvent 8052-41-3	TWA: 525 mg/m ³
Barium sulfate 7727-43-7	TWA: 10 mg/m³ (total dust)
Titanium dioxide 13463-67-7	TWA: 10 mg/m³ (total dust)
Xylenes (o-, m-, p- isomers) 1330-20-7	TWA: 100 ppm STEL: 150 ppm
Naphthalene (constituent) 91-20-3	TWA: 10 ppm STEL: 15 ppm Skin
Ethyl benzene (constituent) 100-41-4	TWA: 100 ppm STEL: 125 ppm
Crystalline silica (cristobalite) 14464-46-1	TWA: 0.05 mg/m³ (respirable)

Component	Mexico OEL (TWA)
Stoddard solvent	TWA/LMPE-PPT: 100 ppm
8052-41-3	TWA/LMPE-PPT: 523 mg/m ³
	STEL/LMPE-CT: 200 ppm
	STEL/LMPE-CT: 1050 mg/m ³
Titanium dioxide	TWA/LMPE-PPT: 10 mg/m ³ (as Ti)
13463-67-7	STEL/LMPE-CT: 20 mg/m ³ (as Ti)
Xylenes (o-, m-, p- isomers)	TWA/LMPE-PPT: 100 ppm
1330-20-7	TWA/LMPE-PPT: 435 mg/m ³
	STEL/LMPE-CT: 150 ppm
	STEL/LMPE-CT: 655 mg/m ³
Naphthalene (constituent)	TWA/LMPE-PPT: 10 ppm
91-20-3	TWA/LMPE-PPT: 50 mg/m ³
	STEL/LMPE-CT: 15 ppm
	STEL/LMPE-CT: 75 mg/m ³
Ethyl benzene (constituent)	TWA/LMPE-PPT: 100 ppm
100-41-4	TWA/LMPE-PPT: 435 mg/m ³
	STEL/LMPE-CT: 125 ppm
	STEL/LMPE-CT: 545 mg/m ³
Crystalline silica (cristobalite)	TWA/LMPE-PPT: 0.05 mg/m ³ (respirable fraction)
14464-46-1	

Appropriate engineering controls

Engineering Measures 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. In case of insufficient ventilation, wear suitable respiratory equipment.

Individual protection measures, such as personal protective equipment

Eye/face Protection	Wear safety glasses with side shields (or goggles). If splashes are likely to occur:. Wear
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	suitable face shield. Ensure that eyewash stations and safety showers are close to the workstation location.
Skin Protection	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
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.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking or smoking. Wash contaminated clothing before reuse. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

<u>Information on basic physical a</u> Physical State Odor	ind chemical properties_ Liquid Characteristic	Appearance Odor Threshold	Colored Liquid No information available
<u>Property</u> pH Melting point/freezing point	<u>Values</u>	Remarks • Method No data available No data available	
Boiling point/Boiling Range Flash Point Evaporation rate	> 149 °C / 300 °F 46 °C / 115 °F	Setaflash closed cup No data available	
Flammability Limit in Air Upper flammability limit Lower flammability limit Vapor Pressure		No data available No data available No data available	
Vapor Density Specific Gravity Water Solubility	1.18	No data available No data available	
Solubility in other solvents Partition coefficient: n-octanol/ Autoignition Temperature Decomposition temperature	water	No data available No data available No data available No data available	
Kinematic viscosity Dynamic viscosity		No data available No data available	
Explosive Properties Oxidizing Properties	No data available No data available		
<u>Other Information</u> Photochemically Reactive Weight Per Gallon (Ibs/gal)	No 9.84		
VOC by weight % (less water)	VOC by volume % (less water)	VOC lbs/gal (less water)	VOC grams/liter (less water)
29.45 No information available 2.9 347.41 10. STABILITY AND REACTIVITY			

Reactivity No information available.

<u>Chemical stability</u> 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 acids. Strong bases. Strong oxidizing agents. Reducing agent.

Hazardous Decomposition Products

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

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	There is no data for this product.
Eye Contact	There is no data for this product.
Skin Contact	There is no data for this product.
Ingestion	There is no data for this product.

Component	Oral LD50
Titanium dioxide 13463-67-7	>10000 mg/kg (Rat)
Naphtha (petroleum), heavy aromatic 64742-94-5	>5000 mg/kg (Rat)
Xylenes (o-, m-, p- isomers) 1330-20-7	4300 mg/kg (Rat)
Naphthalene (constituent) 91-20-3	490 mg/kg (Rat)
Ethyl benzene (constituent) 100-41-4	3500 mg/kg (Rat)

Component	LD50 Dermal
Naphtha (petroleum), heavy aromatic 64742-94-5	>2000 mg/kg (Rabbit)
Xylenes (o-, m-, p- isomers) 1330-20-7	>1700 mg/kg (Rabbit)
Naphthalene (constituent) 91-20-3	>2500 mg/kg (Rat) >20 g/kg (Rabbit)
Ethyl benzene (constituent) 100-41-4	15354 mg/kg (Rabbit)

Component	Inhalation LC50
Naphtha (petroleum), heavy aromatic 64742-94-5	>590 mg/m³(Rat)4 h
Xylenes (o-, m-, p- isomers) 1330-20-7	5000 ppm (Rat)4 h 47635 mg/L (Rat)4 h
Naphthalene (constituent) 91-20-3	>340 mg/m³(Rat)1 h
Ethyl benzene (constituent) 100-41-4	17.2 mg/L (Rat)4 h

Information on toxicological effects

Symptoms

There is no data for this product.

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

Skin corrosion/irritation	There is no data for this product.
Eye damage/irritation	There is no data for this product.
Irritation	There is no data for this product.
Corrosivity	There is no data for this product.
Sensitisation	There is no data for this product.
Mutagenic Effects	There is no data for this product.
Reproductive Effects	There is no data for this product.

STOT - single exposure STOT - repeated exposure Chronic Toxicity Aspiration hazard Carcinogenicity Component Ethyl benzene (constituent)	There is no data for this product. There is no data for this product. There is no data for this product There is no data for this product. The table below indicates whethe	r each agency has listed any ingredient as a carcinogen. ACGIH A3
100-41-4		
Component		IARC
Titanium dioxide 13463-67-7		Group 2B
Naphthalene (constituent) 91-20-3		Group 2B
Ethyl benzene (constituent) 100-41-4		Group 2B
Crystalline silica (cristobalite) 14464-46-1		Group 1
Cobalt Compounds		Group 2B
Component		NTP
Naphthalene (constituent) 91-20-3		Reasonably Anticipated
Component		OSHA
Titanium dioxide 13463-67-7		X
Naphthalene (constituent) 91-20-3		Х
Ethyl benzene (constituent) 100-41-4		Х
Crystalline silica (cristobalite) 14464-46-1		Х
Cobalt Compounds		X

Numerical measures of toxicity - Product Information

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

ATEmix (oral)	53,667.00 mg/kg
ATEmix (dermal)	20,774.00 mg/kg
ATEmix (inhalation-dust/mist)	125.60 mg/l
ATEmix (inhalation-vapor)	921.00 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

None known

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

Component	Algae/aquatic plants
Naphthalene (constituent) 91-20-3	72h EC50 Skeletonema costatum: 0.4 mg/L
Ethyl benzene (constituent) 100-41-4	96h EC50 Pseudokirchneriella subcapitata: 1.7 - 7.6 mg/L [static] 72h EC50 Pseudokirchneriella subcapitata: 2.6 - 11.3 mg/L [static] 72h EC50 Pseudokirchneriella subcapitata: 4.6 mg/L 96h EC50 Pseudokirchneriella subcapitata: >438 mg/L

Component	Fish
Naphthalene (constituent)	96h LC50 Oncorhynchus mykiss: 0.91 - 2.82 mg/L [static]
	<u> </u>

Component	Crustages
Ethyl benzene (constituent) 100-41-4	 96h LC50 Oncorhynchus mykiss: 11.0 - 18.0 mg/L [static] 96h LC50 Pimephales promelas: 7.55 - 11 mg/L [flow-through] 96h LC50 Pimephales promelas: 9.1 - 15.6 mg/L [static] 96h LC50 Lepomis macrochirus: 32 mg/L [static] 96h LC50 Oncorhynchus mykiss: 4.2 mg/L [semi-static] 96h LC50 Poecilia reticulata: 9.6 mg/L [static]
91-20-3	96h LC50 Pimephales promelas: 5.74 - 6.44 mg/L [flow-through] 96h LC50 Oncorhynchus mykiss: 1.6 mg/L [flow-through] 96h LC50 Pimephales promelas: 1.99 mg/L [static] 96h LC50 Lepomis macrochirus: 31.0265 mg/L [static]

Component	Crustacea
Naphthalene (constituent)	48h EC50 Daphnia magna: 1.09 - 3.4 mg/L [static]
91-20-3	48h EC50 Daphnia magna: 1.96 mg/L [Flow through]
	48h LC50 Daphnia magna: 2.16 mg/L
Ethyl benzene (constituent)	48h EC50 Daphnia magna: 1.8 - 2.4 mg/L
100-41-4	

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Component	Partition coefficient
Naphtha (petroleum), heavy aromatic 64742-94-5	4.5
Xylenes (o-, m-, p- isomers) 1330-20-7	2.96
Naphthalene (constituent) 91-20-3	3.3
Ethyl benzene (constituent) 100-41-4	3.118

Other adverse effects

No information available

DOT

13. DISPOSAL CONSIDERATIONS

	14. TRANSPORT INFORMATION
Contaminated Packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.
Waste Disposal Methods	Contain and dispose of waste according to local regulations.
Waste treatment methods	

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]. UN1210 UN/ID no. Printing Ink **Proper Shipping Name** Hazard Class 3 **Packing Group** Ш ICAO / IATA / IMDG / IMO 1210

UN/ID no.	UN1210
Proper Shipping Name	Printing Ink
Hazard Class	3
Packing Group	III

15. REGULATORY INFORMATION

International Inventories

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

U.S. Federal Regulations

<u>SARA 313</u>

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.

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Xylenes (o-, m-, p- isomers)	1330-20-7	1 - 5	1.0
Naphthalene (constituent)	91-20-3	< 0.5	0.1
Ethyl benzene (constituent)	100-41-4	< 0.5	0.1

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

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

Component	CAS-No	Weight %
Xylenes (o-, m-, p- isomers)	1330-20-7	1 - 5

U.S. State Regulations

Component	Massachusetts Right To Know		
Stoddard solvent 8052-41-3	X		
Barium sulfate 7727-43-7	X		
Titanium dioxide 13463-67-7	X		
Xylenes (o-, m-, p- isomers) 1330-20-7	X		
Naphthalene (constituent) 91-20-3	X		
Ethyl benzene (constituent) 100-41-4	X		
Crystalline silica (cristobalite) 14464-46-1	X		

Component	Minnesota Right To Know
Stoddard solvent 8052-41-3	X
Barium sulfate 7727-43-7	X
Titanium dioxide 13463-67-7	X
Xylenes (o-, m-, p- isomers) 1330-20-7	Х
Naphthalene (constituent) 91-20-3	X
Ethyl benzene (constituent) 100-41-4	Х
Crystalline silica (cristobalite) 14464-46-1	Х

Component	New Jersey Right To Know
Stoddard solvent	Х
8052-41-3	
Barium sulfate	Х
7727-43-7	

Titanium dioxide 13463-67-7	X
Xylenes (o-, m-, p- isomers) 1330-20-7	X
Naphthalene (constituent) 91-20-3	X
Ethyl benzene (constituent) 100-41-4	X
Crystalline silica (cristobalite) 14464-46-1	X
Cobalt Compounds	X

Component	Pennsylvania Right To Know
Stoddard solvent 8052-41-3	X
Barium sulfate 7727-43-7	X
Titanium dioxide 13463-67-7	X
Xylenes (o-, m-, p- isomers) 1330-20-7	X
Naphthalene (constituent) 91-20-3	X
Ethyl benzene (constituent) 100-41-4	X
Crystalline silica (cristobalite) 14464-46-1	X
Cobalt Compounds	x

<u>California Prop. 65</u> This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm

Component	California Prop. 65	
Titanium dioxide	Carcinogen	
Naphthalene (constituent)	Carcinogen	
Ethyl benzene (constituent)	Carcinogen	

This product contains titanium dioxide in a non-respirable form. Inhalation of titanium dioxide is unlikely to occur from exposure to this product

<u>Canada</u>

Component	NPRI - National Pollutant Release Inventory Part 5, Other Groups and Mixtures		
Stoddard solvent 8052-41-3			
Naphtha (petroleum), heavy aromatic 64742-94-5	Part 5, Other Groups and Mixtures 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		
Xylenes (o-, m-, p- isomers) 1330-20-7	Part 1, Group A Substance total of all isomers of Xylene, including m-Xylene, CAS No. 108-38-3, o-Xylene, CAS No. 95-47-6, and p-Xylene, CAS No. 106-42-3 Part 5, Isomer Groups total of all isomers of Xylene, including m-Xylene, CAS No. 108-38-3, o-Xylene, CAS No. 95-47-6, and p-Xylene, CAS No. 106-42-3 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		
Naphthalene (constituent) 91-20-3	Part 1, Group A Substance 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		
Ethyl benzene (constituent) 100-41-4	Part 1, Group A Substance 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		
Cobalt Compounds	Part 1, Group A Substance total of the pure element and the equivalent weight of the element contained in any compound, alloy or mixture		

16. OTHER INFORMATION				
HMIS:	Health 1 *	Flammability 2	Reactivity 0	Personal Protection X
Key or legend to ab	breviations and acrony	ms used in the safety da	ata sheet	
Legend - Section 8: E TWA STEL Ceiling		weighted average) t Term Exposure Limit)		
A1 - Known Human Carcin A2 - Suspected Human Ca A3 - Animal Carcinogen IARC: (International Age Group 1 - Carcinogenic to Group 2A - Probably Carcin Group 2B - Possibly Carcin NTP: (National Toxicity P Known - Known Carcinoge Reasonably Anticipated to	nrcinogen ncy for Research on Cancer) Humans nogenic to Humans hogenic to Humans Program) n			
Revision Date	May-30-201	5		

Revision Date

May-30-2015

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 MSDS