



Material Safety Data Sheet

Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

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1. PRODUCT AND COMPANY IDENTIFICATION

Product code S230
Product name Thinner
Product description System 2 (S2) Series Gloss Vinyl Screen Ink

Manufacturer or supplier's details

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

UNITED KINGDOM
Nazdar Limited
7 Barton Road
Heaton Mersey Industrial Estate
Stockport, Chesire SK4 3EG
Tel: +44 161 442 2111

Emergency Telephone Number

USA: Chemtrec: 1-800-424-9300
Outside USA: Chemtrec: 1-703-527-3887

Website: www.nazdar.com
MSDS Information: 1-913-422-1888 ext 2305
MSDS Contact: Regulatory Compliance
email: regcomp@nazdar.com

2. HAZARDS IDENTIFICATION

This product is a preparation. Health hazard information is based on its components.

Appearance Water-white.
Flammable Properties Combustible liquid and vapor.
Emergency Overview Harmful. Irritant. Aspiration hazard. Harmful: may cause lung damage if swallowed. May cause drowsiness and dizziness.

Eyes Severe eye irritant. The liquid splashed in the eyes may cause irritation and reversible damage.

Skin Harmful in contact with skin. May be absorbed through the skin in harmful amounts. Causes skin irritation. Prolonged skin contact may defat the skin and produce dermatitis.

Inhalation Harmful by inhalation. Avoid breathing vapors or mists. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Inhalation of vapours is irritating to the respiratory system, may cause throat pain and cough.

Ingestion Harmful if swallowed. Potential for aspiration if swallowed. Risk of serious damage to the lungs (by aspiration).

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Ethylene glycol monobutyl ether acetate	112-07-2	30 - 60
Ethylene glycol monopropyl ether	2807-30-9	30 - 60
Naphtha (petroleum), heavy aromatic	64742-94-5	10 - 30
Cyclohexanone	108-94-1	10 - 30
Naphthalene (contaminant)	91-20-3	1 - 5
1,2,4-Trimethylbenzene (contaminant)	95-63-6	< 0.5

- Component names which have the word (contaminant) are constituents contained in Aromatic Hydrocarbon ingredients and are an integral part of the ingredient and cannot be separated. The percentage listed for the contaminant is as contained in the Hydrocarbon ingredient. (Example: 100% Hydrocarbon, 10% Contaminant A, 3% Contaminant B)

4. FIRST AID MEASURES

Skin Contact Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation develops, get medical attention.

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 immediately if irritation develops and persists.
Inhalation	Move to fresh air. If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.
Ingestion	If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Combustible liquid and vapor.
Suitable Extinguishing Media	Foam. Carbon dioxide (CO ₂). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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. Keep away from fire, sparks and heated surfaces. Keep container tightly closed. Cool containers / tanks with water spray. Fire or intense heat may cause violent rupture of packages.
Specific Hazards Arising from the Chemical	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Remove all sources of ignition. Heat, flames and sparks. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Methods for Cleaning Up	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
Environmental Precautions	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

7. HANDLING AND STORAGE

Handling	Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of labels and material safety data sheets for the working chemicals. Do not take internally. Harmful or fatal if swallowed.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Keep away from heat and sources of ignition. Take notice of the directions of use on the label.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component	Weight %	ACGIH TLV	OSHA PEL	Ontario TWA EV
Ethylene glycol monobutyl ether acetate	30 - 60	TWA: 20 ppm		TWA: 20 ppm

Component	Weight %	ACGIH TLV	OSHA PEL	Ontario TWAEV
Ethylene glycol monopropyl ether	30 - 60			TWA: 25 ppm TWA: 110 mg/m ³ Skin
Cyclohexanone	10 - 30	TWA: 20 ppm Skin STEL: 50 ppm	TWA: 25 ppm TWA: 100 mg/m ³ Skin TWA: 50 ppm TWA: 200 mg/m ³	TWA: 20 ppm STEL: 50 ppm Skin
Naphthalene (contaminant)	1 - 5	TWA: 10 ppm Skin STEL: 15 ppm	TWA: 50 mg/m ³ TWA: 10 ppm STEL: 15 ppm STEL: 75 mg/m ³	TWA: 10 ppm TWA: 52 mg/m ³ STEL: 15 ppm STEL: 78 mg/m ³
1,2,4-Trimethylbenzene (contaminant)	< 0.5	TWA: 25 ppm		TWA: 25 ppm TWA: 123 mg/m ³

Component	Weight %	NIOSH IDLH	Mexico OEL (TWA)
Cyclohexanone	10 - 30	700 ppm	TWA: 50 ppm TWA: 200 mg/m ³ STEL: 400 mg/m ³ STEL: 100 ppm
Naphthalene (contaminant)	1 - 5	250 ppm	TWA: 10 ppm TWA: 50 mg/m ³ STEL: 75 mg/m ³ STEL: 15 ppm
1,2,4-Trimethylbenzene (contaminant)	< 0.5		TWA: 125 mg/m ³ TWA: 25 ppm STEL: 35 ppm STEL: 170 mg/m ³

NIOSH IDLH: *Immediately Dangerous to Life or Health*

Engineering Measures

Use only with adequate ventilation. Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.

Personal Protective Equipment

Respiratory Protection

Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.

Eye Protection

Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.

Skin Protection

Wear protective gloves/clothing. Solvent-resistant apron and boots.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance	Water-white	Physical State	Liquid
Odor	Characteristic	Odor Threshold	No information available
pH	No information available	Autoignition Temperature	No information available
Boiling point/Boiling Range	>149°C / >300°F	Melting Point/Range	No information available
Freezing Point/Range	No information available	Solubility	No information available
Evaporation Rate	No information available	Partition Coefficient (n-octanol/water)	No information available
Vapour Pressure	No information available	Vapour Density	Heavier than air
Flammability (solid, gas)	No information available	Flash Point	46°C / 115°F
Flammability Limits in Air		Method	Pensky Martens Closed Cup (PMCC)
Upper	No information available	Photochemically Reactive	Yes
Lower	No information available		
Weight Per Gallon (lbs/gal)	7.714	Specific Gravity	0.925
VOC by weight	100	VOC by volume	100
VOC lbs/gal	7.718	VOC grams/liter	924.796

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Heat, flames and sparks.
Incompatible Products	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO ₂). Carbon monoxide.
Possibility of Hazardous Reactions	None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylene glycol monobutyl ether acetate	1600 mg/kg (Rat)	1480 mg/kg (Rabbit)	
Ethylene glycol monopropyl ether	3089 mg/kg (Rat)	960 µL/kg (Rabbit)	
Naphtha (petroleum), heavy aromatic	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	590 mg/m ³ (Rat) 4 h
Cyclohexanone	800 mg/kg (Rat)	948 mg/kg (Rabbit)	10.7 mg/L (Rat) 4 h 8000 ppm (Rat) 4 h
Naphthalene (contaminant)	490 mg/kg (Rat)	2500 mg/kg (Rat) 20 g/kg (Rabbit)	340 mg/m ³ (Rat) 1 h
1,2,4-Trimethylbenzene (contaminant)	3400 mg/kg (Rat) 8970 mg/kg (Rat)	3160 mg/kg (Rabbit)	18 g/m ³ (Rat) 4 h

Chronic Toxicity

Component	ACGIH	IARC	NTP	OSHA
Ethylene glycol monobutyl ether acetate	A3			
Cyclohexanone	A3			
Naphthalene (contaminant)		Group 2B	Reasonably Anticipated	X

Legend:

ACGIH: (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC: (International Agency for Research on Cancer)
 NTP: (National Toxicity Program)
 OSHA: (Occupational Safety & Health Administration)

Group 2B - Possibly Carcinogenic to Humans
 Reasonably Anticipated to be a Human Carcinogen
 X - Present

Sensitisation	No information available
Mutagenic Effects	No information available
Reproductive Effects	No information available
Developmental Effects	No information available
Teratogenicity	No information available
Chronic Effects	Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effect, such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system.
Target Organ Effects	Blood, Central nervous system, Eyes, Hematopoietic System, Kidney, Liver, Respiratory system, Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
Ethylene glycol monobutyl ether acetate	72 Hr EC50 Scenedesmus subspicatus: >500 mg/L		48 Hr EC50 water flea: 37 mg/L
Naphtha (petroleum), heavy aromatic	72 Hr EC50 Skeletonema costatum: 2.5 mg/L	96 Hr LC50 Pimephales promelas: 19 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 2.34 mg/L; 96 Hr LC50 Lepomis macrochirus: 1740 mg/L [static]	48 Hr EC50 Daphnia magna: 0.95 mg/L
Cyclohexanone	96 Hr EC50 Chlorella vulgaris: 20 mg/L	96 Hr LC50 Pimephales promelas: 8.9 mg/L	48 Hr EC50 water flea: 820 mg/L; 48 Hr EC50 Daphnia magna: 800 mg/L
Naphthalene (contaminant)	96 Hr EC50 Skeletonema costatum: 0.4 mg/L	96 Hr LC50 Pimephales promelas: 1.99 mg/L [static]	48 Hr EC50 water flea: 2.16 mg/L
1,2,4-Trimethylbenzene (contaminant)		96 Hr LC50 Pimephales promelas: 7.72 mg/L [flow-through]	48 Hr EC50 Daphnia magna: 6.14 mg/L

Persistence and Degradability	No information available
Bioaccumulation	No information available
Mobility in Environmental Media	No information available

Component	log Pow
Ethylene glycol monobutyl ether acetate	1.51
Naphtha (petroleum), heavy aromatic	2.9 - 6.1
Cyclohexanone	0.86

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods	Dispose of contents/container in accordance with local regulation.
Contaminated Packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

DOT

UN1210, Printing Ink Related Material, 3, III

ICAO/IATA

14. TRANSPORT INFORMATION

UN1210, Printing Ink Related Material, 3, III

IMDG/IMO

UN1210, Printing Ink Related Material, 3, III

15. REGULATORY INFORMATION**International Inventories**

Listed on TSCA. For further information, please contact: Manufacturer, importer, supplier

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

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Naphthalene (contaminant)	91-20-3	1 - 5	0.1
Ethylene glycol monobutyl ether acetate	112-07-2	30 - 60	1.0
Ethylene glycol monopropyl ether	2807-30-9	30 - 60	1.0

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

This product contains the following HAPs:

Component	CAS-No	Weight %
Naphthalene (contaminant)	91-20-3	1 - 5
Ethylene glycol monobutyl ether acetate	112-07-2	30 - 60
Ethylene glycol monopropyl ether	2807-30-9	30 - 60

U.S. State Regulations**California Prop. 65**

WARNING! This product contains a chemical known in the State of California to cause cancer. WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

Component	CAS-No	Weight %
Naphthalene (contaminant)	91-20-3	1 - 5

State Right-to-Know

Component	Minnesota	Florida	New Jersey	Pennsylvania	Massachusetts	Rhode Island
Ethylene glycol monobutyl ether acetate	Not Listed	Not Listed	X	X	Not Listed	Not Listed
Ethylene glycol monopropyl ether	Not Listed	Not Listed	X	X	Not Listed	Not Listed
Naphtha (petroleum), heavy aromatic	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Cyclohexanone	Not Listed	Not Listed	X	X	X	X
Naphthalene (contaminant)	Not Listed	Not Listed	X	X	X	X
1,2,4-Trimethylbenzene (contaminant)	Not Listed	Not Listed	X	X	X	X

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Component	WHMIS Classifications of Components
Ethylene glycol monobutyl ether acetate	B3
Ethylene glycol monopropyl ether	B3, D1B, D2B
Cyclohexanone	B3, D1B, D2B
Naphthalene (contaminant)	B4, D2A

Component	WHMIS Classifications of Components
1,2,4-Trimethylbenzene (contaminant)	B3

Component	NPRI - National Pollutant Release Inventory
Ethylene glycol monobutyl ether acetate	Part 4 Substance Part 5 Substance
Ethylene glycol monopropyl ether	Part 4 Substance
Naphtha (petroleum), heavy aromatic	Part 5 Substance Part 4 Substance
Cyclohexanone	Part 4 Substance
Naphthalene (contaminant)	Part 1, Group 1 Substance Part 4 Substance
1,2,4-Trimethylbenzene (contaminant)	Part 1, Group 1 Substance; Part 5 Substance Part 5 Substance (except 1,2,4-Trimethyl benzene) Part 4 Substance

REACH: Substances of Very High Concern (SVHC): Article 57 of Regulation (EC) No 1907/2006

Does NOT contain a listed substance

HMIS:	Health 2*	Flammability 2	Reactivity 0	PPE X
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16. OTHER INFORMATION

Revision Date Apr-02-2009

Revision Summary New MSDS format

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