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1

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

**Product identifier**

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

**Other means of identification**

Synonyms None

**Recommended use of the chemical and restrictions on use**

Recommended use Printing operations

**Details of the supplier of the safety data sheet**

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

**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**

Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Dermal	Category 4 - (H312)
Acute toxicity - Inhalation (Vapors)	Category 4 - (H332)
Acute toxicity - Inhalation (Dusts/Mists)	Category 4 - (H332)
Serious eye damage/eye irritation	Category 2 - (H319)
Aspiration toxicity	Category 1 - (H304)
Flammable liquids	Category 3 - (H226)

**Label elements**



Signal Word  
Danger

**Hazard Statements**

H302 - Harmful if swallowed  
 H304 - May be fatal if swallowed and enters airways  
 H312 - Harmful in contact with skin  
 H319 - Causes serious eye irritation  
 H332 - Harmful if inhaled  
 H226 - Flammable liquid and vapor

**Precautionary Statements**

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
Ethylene glycol monopropyl ether	2807-30-9	30 - 60	*	
Ethylene glycol monobutyl ether acetate	112-07-2	30 - 60	*	
Naphtha (petroleum), heavy aromatic	64742-94-5	10 - 30	*	
Cyclohexanone	108-94-1	10 - 30	*	
Naphthalene (constituent)	91-20-3	1 - 5	*	1
1,2,4-Trimethylbenzene (constituent)	95-63-6	< 0.5	*	1

\*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**

<b>General Advice</b>	Show this safety data sheet to the doctor in attendance.
<b>Eye Contact</b>	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.
<b>Skin Contact</b>	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.
<b>Inhalation</b>	Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.
<b>Ingestion</b>	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 (CO<sub>2</sub>). 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
Ethylene glycol monobutyl ether acetate 112-07-2	TWA: 20 ppm
Cyclohexanone 108-94-1	TWA: 20 ppm STEL: 50 ppm Skin
Naphthalene (constituent) 91-20-3	TWA: 10 ppm STEL: 15 ppm Skin

Component	OSHA PEL
Cyclohexanone 108-94-1	TWA: 25 ppm TWA: 100 mg/m <sup>3</sup> TWA: 50 ppm TWA: 200 mg/m <sup>3</sup> Skin
Naphthalene (constituent)	TWA: 10 ppm

91-20-3	TWA: 50 mg/m <sup>3</sup> STEL: 15 ppm STEL: 75 mg/m <sup>3</sup>
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Component	Ontario TWAEV
Ethylene glycol monopropyl ether 2807-30-9	TWA: 25 ppm TWA: 110 mg/m <sup>3</sup> Skin
Ethylene glycol monobutyl ether acetate 112-07-2	TWA: 20 ppm
Cyclohexanone 108-94-1	TWA: 20 ppm STEL: 50 ppm Skin
Naphthalene (constituent) 91-20-3	TWA: 10 ppm STEL: 15 ppm Skin

Component	Mexico OEL (TWA)
Cyclohexanone 108-94-1	TWA/LMPE-PPT: 50 ppm TWA/LMPE-PPT: 200 mg/m <sup>3</sup> STEL/LMPE-CT: 100 ppm STEL/LMPE-CT: 400 mg/m <sup>3</sup>
Naphthalene (constituent) 91-20-3	TWA/LMPE-PPT: 10 ppm TWA/LMPE-PPT: 50 mg/m <sup>3</sup> STEL/LMPE-CT: 15 ppm STEL/LMPE-CT: 75 mg/m <sup>3</sup>

### 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 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

### Information on basic physical and chemical properties

Physical State	Liquid	Appearance	Water-white
Odor	Characteristic	Odor Threshold	No information available
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>	
pH		No data available	
Melting point/freezing point		No data available	
Boiling point/Boiling Range	> 149 °C / 300 °F		
Flash Point	46 °C / 115 °F	Pensky Martens Closed Cup (PMCC)	
Evaporation rate		No data available	

<b>Flammability Limit in Air</b>		
Upper flammability limit		No data available
Lower flammability limit		No data available
<b>Vapor Pressure</b>		No data available
<b>Vapor Density</b>		No data available
<b>Specific Gravity</b>	0.93	
<b>Water Solubility</b>		No data available
<b>Solubility in other solvents</b>		No data available
<b>Partition coefficient: n-octanol/water</b>		No data available
<b>Autoignition Temperature</b>		No data available
<b>Decomposition temperature</b>		No data available
<b>Kinematic viscosity</b>		No data available
<b>Dynamic viscosity</b>		No data available
<b>Explosive Properties</b>	No data available	
<b>Oxidizing Properties</b>	No data available	

**Other Information**

<b>Photochemically Reactive</b>	Yes
<b>Weight Per Gallon (lbs/gal)</b>	7.71

VOC by weight % (less water)	VOC by volume % (less water)	VOC lbs/gal (less water)	VOC grams/liter (less water)
100	100	7.72	924.8

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

**Hazardous Decomposition Products**

Thermal decomposition can lead to release of irritating gases and vapors. Carbon dioxide (CO<sub>2</sub>). Carbon monoxide.

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

<b>Inhalation</b>	There is no data for this product.
<b>Eye Contact</b>	There is no data for this product.
<b>Skin Contact</b>	There is no data for this product.
<b>Ingestion</b>	There is no data for this product.

Component	Oral LD50
Ethylene glycol monopropyl ether 2807-30-9	3089 mg/kg ( Rat )
Ethylene glycol monobutyl ether acetate 112-07-2	1600 mg/kg ( Rat )
Naphtha (petroleum), heavy aromatic 64742-94-5	>5000 mg/kg ( Rat )
Cyclohexanone	800 mg/kg ( Rat )

108-94-1	
Naphthalene (constituent) 91-20-3	490 mg/kg ( Rat )
1,2,4-Trimethylbenzene (constituent) 95-63-6	3400 mg/kg ( Rat )

Component	LD50 Dermal
Ethylene glycol monopropyl ether 2807-30-9	960 µL/kg ( Rabbit )
Ethylene glycol monobutyl ether acetate 112-07-2	1480 mg/kg ( Rabbit )
Naphtha (petroleum), heavy aromatic 64742-94-5	>2000 mg/kg ( Rabbit )
Naphthalene (constituent) 91-20-3	>2500 mg/kg ( Rat ) >20 g/kg ( Rabbit )
1,2,4-Trimethylbenzene (constituent) 95-63-6	>3160 mg/kg ( Rabbit )

Component	Inhalation LC50
Naphtha (petroleum), heavy aromatic 64742-94-5	>590 mg/m <sup>3</sup> ( Rat ) 4 h
Cyclohexanone 108-94-1	8000 ppm ( Rat ) 4 h 10.7 mg/L ( Rat ) 4 h
Naphthalene (constituent) 91-20-3	>340 mg/m <sup>3</sup> ( Rat ) 1 h
1,2,4-Trimethylbenzene (constituent) 95-63-6	18 g/m <sup>3</sup> ( 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** There is no data for this product.  
**STOT - repeated exposure** There is no data for this product.  
**Chronic Toxicity** There is no data for this product.  
**Aspiration hazard** There is no data for this product.  
**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH
Ethylene glycol monobutyl ether acetate 112-07-2	A3
Cyclohexanone 108-94-1	A3

Component	IARC
Naphthalene (constituent) 91-20-3	Group 2B

Component	NTP
Naphthalene (constituent) 91-20-3	Reasonably Anticipated

Component	OSHA
Naphthalene (constituent) 91-20-3	X

**Numerical measures of toxicity - Product Information**

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

<b>ATEmix (oral)</b>	1,740.00 mg/kg
<b>ATEmix (dermal)</b>	1,526.00 mg/kg mg/l
<b>ATEmix (inhalation-dust/mist)</b>	3.00 mg/l
<b>ATEmix (inhalation-vapor)</b>	22.00 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
Ethylene glycol monobutyl ether acetate 112-07-2	72h EC50 Desmodium subspicatum: >500 mg/L
Cyclohexanone 108-94-1	96h EC50 Chlorella vulgaris: 20 mg/L
Naphthalene (constituent) 91-20-3	72h EC50 Skeletonema costatum: 0.4 mg/L

Component	Fish
Cyclohexanone 108-94-1	96h LC50 Pimephales promelas: 481 - 578 mg/L [flow-through]
Naphthalene (constituent) 91-20-3	96h LC50 Oncorhynchus mykiss: 0.91 - 2.82 mg/L [static] 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]
1,2,4-Trimethylbenzene (constituent) 95-63-6	96h LC50 Pimephales promelas: 7.19 - 8.28 mg/L [flow-through]

Component	Crustacea
Cyclohexanone 108-94-1	24h EC50 Daphnia magna: 800 mg/L
Naphthalene (constituent) 91-20-3	48h EC50 Daphnia magna: 1.09 - 3.4 mg/L [static] 48h EC50 Daphnia magna: 1.96 mg/L [Flow through] 48h LC50 Daphnia magna: 2.16 mg/L
1,2,4-Trimethylbenzene (constituent) 95-63-6	48h EC50 Daphnia magna: 6.14 mg/L

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available.

Component	Partition coefficient
Ethylene glycol monobutyl ether acetate 112-07-2	1.51
Naphtha (petroleum), heavy aromatic 64742-94-5	4.5
Cyclohexanone 108-94-1	0.86
Naphthalene (constituent) 91-20-3	3.3
1,2,4-Trimethylbenzene (constituent) 95-63-6	3.63

**Other adverse effects**

No information available

### 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

#### 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 Related Material  
 Hazard Class 3  
 Packing Group III

#### ICAO / IATA / IMDG / IMO

UN/ID no. UN1210  
 Proper Shipping Name Printing Ink Related Material  
 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

##### 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
Ethylene glycol monobutyl ether acetate	112-07-2	30 - 60	1.0
Ethylene glycol monopropyl ether	2807-30-9	30 - 60	1.0
Naphthalene (constituent)	91-20-3	1 - 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 %
Ethylene glycol monobutyl ether acetate	112-07-2	30 - 60
Ethylene glycol monopropyl ether	2807-30-9	30 - 60
Naphthalene (constituent)	91-20-3	1 - 5

#### U.S. State Regulations

Component	Massachusetts Right To Know
Cyclohexanone 108-94-1	X
Naphthalene (constituent) 91-20-3	X
1,2,4-Trimethylbenzene (constituent) 95-63-6	X



Component	Minnesota Right To Know
Cyclohexanone 108-94-1	X
Naphthalene (constituent) 91-20-3	X
1,2,4-Trimethylbenzene (constituent) 95-63-6	X

Component	New Jersey Right To Know
Ethylene glycol monopropyl ether 2807-30-9	X
Ethylene glycol monobutyl ether acetate 112-07-2	X
Cyclohexanone 108-94-1	X
Naphthalene (constituent) 91-20-3	X
1,2,4-Trimethylbenzene (constituent) 95-63-6	X

Component	Pennsylvania Right To Know
Ethylene glycol monopropyl ether 2807-30-9	X
Ethylene glycol monobutyl ether acetate 112-07-2	X
Cyclohexanone 108-94-1	X
Naphthalene (constituent) 91-20-3	X
1,2,4-Trimethylbenzene (constituent) 95-63-6	X

**California Prop. 65**

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
Naphthalene (constituent)	Carcinogen

**Canada**

Component	NPRI - National Pollutant Release Inventory
Ethylene glycol monopropyl ether 2807-30-9	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
Ethylene glycol monobutyl ether acetate 112-07-2	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
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
Cyclohexanone 108-94-1	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
1,2,4-Trimethylbenzene (constituent) 95-63-6	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

<b>16. OTHER INFORMATION</b>
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<b>HMIS:</b>	<b>Health</b> 2 *	<b>Flammability</b> 2	<b>Reactivity</b> 0	<b>Personal Protection</b> X
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**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

**NTP: (National Toxicity Program)**

- Known - Known Carcinogen
- Reasonably Anticipated to be a Human Carcinogen

**OSHA: (Occupational Safety & Health Administration)**

- X - Present

**Revision Date**

May-31-2015

**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**