



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 **GV187**
Product name **Silver**
Product description GV 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 Viscous liquid
Flammable Properties Combustible liquid and vapor.
Emergency Overview Harmful. Aspiration hazard. Harmful: may cause lung damage if swallowed. May cause drowsiness and dizziness.

Eyes Moderately irritating to the eyes. 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 Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Ingestion Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Potential for aspiration if swallowed. Risk of serious damage to the lungs (by aspiration).

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Isophorone	78-59-1	30 - 60
Naphtha (petroleum), heavy aromatic	64742-94-5	10 - 30
Aluminum	7429-90-5	5 - 10
Ethyl 3-Ethoxypropionate	763-69-9	5 - 10
Petroleum naphtha, light aromatic	64742-95-6	1 - 5
1,2,4-Trimethylbenzene (contaminant)	95-63-6	1 - 5
Naphthalene (contaminant)	91-20-3	< 1
1,3,5-Trimethylbenzene (contaminant)	108-67-8	< 0.5
Vinyl acetate	108-05-4	< 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

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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	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 TWAEV
Isophorone	30 - 60	Ceiling: 5 ppm	TWA: 4 ppm TWA: 23 mg/m ³ TWA: 25 ppm TWA: 140 mg/m ³	CEV: 28 mg/m ³ CEV: 5 ppm
Aluminum	5 - 10	TWA: 1 mg/m ³	TWA: 5 mg/m ³ TWA: 15 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³
Ethyl 3-Ethoxypropionate	5 - 10			TWA: 300 mg/m ³ TWA: 50 ppm
1,2,4-Trimethylbenzene (contaminant)	1 - 5	TWA: 25 ppm		TWA: 25 ppm TWA: 123 mg/m ³
Naphthalene (contaminant)	< 1	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
1,3,5-Trimethylbenzene (contaminant)	< 0.5	TWA: 25 ppm		TWA: 123 mg/m ³ TWA: 25 ppm
Vinyl acetate	< 0.5	TWA: 10 ppm STEL: 15 ppm	TWA: 10 ppm TWA: 30 mg/m ³ STEL: 20 ppm STEL: 60 mg/m ³	TWA: 10 ppm STEL: 15 ppm

Component	Weight %	NIOSH IDLH	Mexico OEL (TWA)
Isophorone	30 - 60	200 ppm	Peak: 25 mg/m ³ Peak: 5 ppm
Aluminum	5 - 10		TWA: 10 mg/m ³ TWA: 5 mg/m ³
1,2,4-Trimethylbenzene (contaminant)	1 - 5		TWA: 125 mg/m ³ TWA: 25 ppm STEL: 35 ppm STEL: 170 mg/m ³
Naphthalene (contaminant)	< 1	250 ppm	TWA: 10 ppm TWA: 50 mg/m ³ STEL: 75 mg/m ³ STEL: 15 ppm
1,3,5-Trimethylbenzene (contaminant)	< 0.5		TWA: 125 mg/m ³ TWA: 25 ppm STEL: 35 ppm STEL: 170 mg/m ³
Vinyl acetate	< 0.5		TWA: 10 ppm TWA: 30 mg/m ³ STEL: 20 ppm STEL: 60 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	Viscous liquid	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	66°C / 150°F
Flammability Limits in Air		Method	Setaflash closed cup
Upper	No information available	Photochemically Reactive	Yes
Lower	No information available		
Weight Per Gallon (lbs/gal)	8.867	Specific Gravity	1.064
VOC by weight	63.813	VOC by volume	67.2
VOC lbs/gal	5.664	VOC grams/liter	678.693

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
Isophorone	1870 mg/kg (Rat)	1390 mg/kg (Rat)	7 mg/L (Rat) 4 h
Naphtha (petroleum), heavy aromatic	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	590 mg/m ³ (Rat) 4 h
Ethyl 3-Ethoxypropionate	3200 mg/kg (Rat)	10 mL/kg (Rabbit)	
Petroleum naphtha, light aromatic	8400 mg/kg (Rat)	2000 mg/kg (Rabbit)	5.2 mg/L (Rat) 4 h 3400 ppm (Rat) 4 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
Naphthalene (contaminant)	490 mg/kg (Rat)	2500 mg/kg (Rat) 20 g/kg (Rabbit)	340 mg/m ³ (Rat) 1 h
1,3,5-Trimethylbenzene (contaminant)	8970 mg/kg (Rat) 5000 mg/kg (Rat)		24 g/m ³ (Rat) 4 h
Vinyl acetate	2920 mg/kg (Rat)	2320 mg/kg (Rabbit)	11.4 mg/L (Rat) 4 h 3200 ppm (Rat) 4 h

Chronic Toxicity

Component	ACGIH	IARC	NTP	OSHA
Isophorone	A3			
Naphthalene (contaminant)		Group 2B	Reasonably Anticipated	X
Vinyl acetate	A3	Group 2B		X

Legend:

ACGIH: (American Conference of Governmental Industrial Hygienists)
 IARC: (International Agency for Research on Cancer)
 NTP: (National Toxicity Program)
 OSHA: (Occupational Safety & Health Administration)

A3 - Animal Carcinogen
 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, 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
Isophorone	72 Hr EC50 Scenedesmus subspicatus: 475.4 mg/L; 96 Hr EC50 Selenastrum capricornutum: 126 mg/L	96 Hr LC50 Pimephales promelas: 145 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 220 mg/L [static]	48 Hr EC50 Daphnia magna: 117 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
Ethyl 3-Ethoxypropionate		96 Hr LC50 Pimephales promelas: 62 mg/L [static]	48 Hr EC50 Daphnia magna: 970 mg/L
Petroleum naphtha, light aromatic		96 Hr LC50 Oncorhynchus mykiss: 9.22 mg/L	48 Hr EC50 Daphnia magna: 6.14 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
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
1,3,5-Trimethylbenzene (contaminant)		96 Hr LC50 Pimephales promelas: 3.48 mg/L 96 Hr LC50 Pimephales promelas: 7.72 mg/L [flow-through]	24 Hr EC50 water flea: 50 mg/L
Vinyl acetate		96 Hr LC50 Pimephales promelas: 31.0 mg/L; 96 Hr LC50 Lepomis macrochirus: 31.0 mg/L; 96 Hr LC50 Pimephales promelas: 14-15 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 18 mg/L [static]	24 Hr EC50 water flea: 52.0 mg/L

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

Component	log Pow
Isophorone	1.66
Naphtha (petroleum), heavy aromatic	2.9 - 6.1
Ethyl 3-Ethoxypropionate	1.35

Component	log Pow
Vinyl acetate	0.73

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

Printing Ink, Not Regulated

ICAO/IATA

Not classified as dangerous in the meaning of transport regulations

IMDG/IMO

Not classified as dangerous in the meaning of transport regulations

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
Aluminum	7429-90-5	5 - 10	1.0
Vinyl acetate	108-05-4	< 0.5	0.1
1,2,4-Trimethylbenzene (contaminant)	95-63-6	1 - 5	1.0
Naphthalene (contaminant)	91-20-3	< 1	0.1

Aluminum is reportable under SARA313 ONLY if it is a fume or dust form. Fume or dust refers to dry forms but does not refer to "wet" forms such as use in a solution or slurry.

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

This product contains the following HAPs:

Component	CAS-No	Weight %
Isophorone	78-59-1	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 %
Ethyl acrylate	140-88-5	< 0.001
Formaldehyde	50-00-0	< 0.01
Benzene	71-43-2	< 0.0001
Vinyl chloride	75-01-4	< 0.0001
Toluene	108-88-3	< 0.01
Naphthalene (contaminant)	91-20-3	< 1

State Right-to-Know

Component	Minnesota	Florida	New Jersey	Pennsylvania	Massachusetts	Rhode Island
Isophorone	Not Listed	Not Listed	X	X	X	X
Naphtha (petroleum), heavy aromatic	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Aluminum	Not Listed	Not Listed	X	X	X	X
Ethyl 3-Ethoxypropionate	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Petroleum naphtha, light aromatic	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
1,2,4-Trimethylbenzene (contaminant)	Not Listed	Not Listed	X	X	X	X
Naphthalene (contaminant)	Not Listed	Not Listed	X	X	X	X
1,3,5-Trimethylbenzene (contaminant)	Not Listed	Not Listed	X	X	X	X
Vinyl acetate	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
Isophorone	B3, D2B
Aluminum	B6 (powder); Uncontrolled product according to WHMIS classification criteria
Ethyl 3-Ethoxypropionate	B3, D2B
Petroleum naphtha, light aromatic	B3, D2B
1,2,4-Trimethylbenzene (contaminant)	B3
Naphthalene (contaminant)	B4, D2A
1,3,5-Trimethylbenzene (contaminant)	B3
Vinyl acetate	B2, D1B, D2A, F

Component	NPRI - National Pollutant Release Inventory
Isophorone	Part 4 Substance
Naphtha (petroleum), heavy aromatic	Part 5 Substance Part 4 Substance
Aluminum	Part 1, Group 1 Substance (dust or fume)
Ethyl 3-Ethoxypropionate	Part 4 Substance
Petroleum naphtha, light aromatic	Part 5 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
Naphthalene (contaminant)	Part 1, Group 1 Substance Part 4 Substance
1,3,5-Trimethylbenzene (contaminant)	Part 5 Substance (except 1,2,4-Trimethyl benzene) Part 4 Substance
Vinyl acetate	Part 4 Substance Part 1, Group 1 Substance; Part 5 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-29-2009
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