



MATERIAL SAFETY DATA SHEET

GS-154

READ THIS MATERIAL SAFETY DATA SHEET BEFORE USING THIS PRODUCT. ASK YOUR SUPERVISOR FOR ASSISTANCE IF YOU DO NOT UNDERSTAND ANY PART OF IT.

1. IDENTIFICATION OF PRODUCT & COMPANY

Product Reference: GS-154B
Product Name: GS-154 Curing Agent — Black
Intended Use: Anticorrosive coating component

Details of company: **Nixus International** (USA) 850-267-1237 VOICE
6620 E. Co. Hwy 30A Box U1
Watersound, FL 32461 USA

2. HAZARDS IDENTIFICATION

Hazard Statements:

H312-Harmful if in contact with skin.

H315-causes skin irritation.

H319-Irritating to eyes and skin.

H411-Toxic to aquatic organisms in unreacted condition, may cause long term adverse effects in the aquatic environment (unmixed material only – ONCE MIXED THE MATERIAL IS HARMLESS TO ENVIRONMENT.)

H334-Do not breathe vapor or spray. May cause respiratory difficulties if inhaled.

Precautionary Statements:

P280-Wear protective gloves, eye protection and face protection etc.

P301-P315+P331

P303-P361+P352+P332:P313

P305-P338+P351

P304-P341

P273-Avoid release to the environment.(ONLY IN UNMIXED STATE)

SIGNAL WORD: WARNING

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances presenting a health or environmental hazard within the meaning of the CHIP Regulations or which are assigned Occupational Exposure Values.

Substance Name	Concentration Range (%)	GHS (*)	EINECS/ELINCS No.	CAS No.
Mercaptan terminated polymer	75 – 90 %	2-H315, 1-H317, 2-H319, 2-411		NJ TSRN 560113900-5063
2, 4, 6,- tri(dimethylaminomethyl) phenol	5 – 10 %	2-H315, 1-H317, 2-H319, 4-413		90-72-2
Poly(terephthaloylchloride/ p-phenylenediamine	0 – 5 %			26125-61-1

(*) for full text see Section 16

4. FIRST AID MEASURES

General: In all cases of doubt or when symptoms persist seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air, check for breathing and administer artificial respiration if necessary. Give nothing by mouth. If unconscious place in recovery position and seek medical advice. If conscious ensure the person sits or lies down. Obtain medical attention if ill effects occur.

Eye Contact: Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes holding the eyelids apart, seek medical advice if effects occur.

Skin Contact: Remove contaminated clothing and footwear. Wash skin thoroughly with soap and water or use a proprietary skin cleanser. Do NOT use solvents or thinners. Seek medical attention if irritation persists.

Ingestion: If accidentally swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting. If conscious give 1 pint of fresh water to drink. If unconscious, check for breathing and give artificial respiration if necessary.

5. FIRE FIGHTING MEASURES

Flammability Classification: Combustible IIIB

FLASH POINT: >219°F

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical, water fog.

NOT RECOMMENDED: Water jet

UNUSUAL HAZARDS: Combustion products may include, but are not limited to: phenolics, carbon dioxide, acrolein, and carbon dioxide.

SPECIAL FIREFIGHTING PROCEDURES: Use protective firefighting clothing and positive pressure self-contained breathing apparatus to protect against potential harmful and/or irritating fumes. Do not use high pressure water since this may spread the area of the fire.

6. ACCIDENTAL RELEASE MEASURES

Exclude sources of ignition and ventilate area. Exclude non-essential personnel. Avoid breathing vapours. Refer to protective measures listed in Sections 7 and 8. Contain and collect spillages with non-combustible absorbent materials e.g. sand, earth, vermiculite, diatomaceous earth and place in a suitable container for disposal in accordance with waste regulations (see Section 13).

Do not allow to enter drains or water courses. Clean preferably with a detergent, avoid use of solvents. If the product enters drains or sewers immediately contact the local water company; in the case of contamination of streams, rivers or lakes the relevant environmental agency.

Dispose of in accordance with applicable local and federal environmental control regulations.

7. STORAGE & HANDLING

Handling: Provide sufficient air exchange and/or exhaust in workrooms. Ensure adequate ventilation. Handle and open container with care. When using do not eat, drink or smoke.

Storage: Keep away from food, drink and animal feeding stuffs. Keep container tightly closed. Observe the label precautions. Store between 5 and 40°C in a dry well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorised access. Containers which are opened should be properly resealed and kept upright to prevent leakage. Store away from oxidising agents and strongly alkaline and acid materials. The principles contained in general guidance for storage of packaged potentially dangerous substances should be observed when storing this product.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures: Provide additional forced ventilation if existing natural ventilation is insufficient. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of solvent vapour and/or particulates below the relevant Occupational Exposure Values, suitable respiratory protective equipment should be worn (see "Workplace Exposure Limits" below).

Exposure Limit Values:	Substance	TWA (1)	STEL (2)	Notations
		ppm (4) mg/m ³ (4)	ppm (4) mg/m ³ (4)	
		None Listed	None Listed	

NOTES:

(1) Long Term Exposure Limit - 8 hour Time Weighted Average.

(2) Short Term Exposure Limit - 15 minute reference period.

(3) 'Sk' indicates a risk of absorption through the skin. 'Sen' indicates a respiratory sensitizer.

(4) 'WEL' indicates Workplace Exposure Limit.

General Protection: All personal protective equipment, including respiratory protective equipment, used to control exposure to hazardous substances must be selected to meet the requirements of the OSHA regulations.

Respiratory Protection: Air fed respiratory protective equipment should be worn when sprayed if exposure of the sprayer or other people nearby cannot be controlled to below the Occupational Exposure Values and engineering methods cannot reasonably be improved.

Hand Protection: When skin exposure may occur, advice should be sought from glove suppliers on appropriate types and usage times for this product. The instructions and information provided by the glove supplier on use, storage, maintenance and replacement must be followed. Barrier creams may help to protect exposed areas of skin, but are not substitutes for full physical protection. They should not be applied after exposure has occurred.

Eye Protection: Eye protection designed to protect against liquid splashes should be worn. Cotton or cotton/synthetic overalls or coveralls are normally suitable. Grossly contaminated clothing should be removed and the skin washed with soap and water or a proprietary skin cleaner. Regular skin inspection of users of this product is recommended.

Skin Protection: ALWAYS WASH YOUR HANDS BEFORE EATING, SMOKING OR USING THE TOILET.

See Section 12 for detailed information.

9. PHYSICAL PROPERTIES

Physical State: Black paste

Flash Point: >250°F

Viscosity: 25 – 50 Poise

Specific Gravity: 0.95Kgs/ Ltr.

Voc Content: Essentially zero under normal conditions.

Vapour Density: N/A

Solubility in Water: Immiscible

Method: DIN 51758 (Pensky-Martins Closed Cup)

Method: BS3900 Part A7

Method: BS3900 Part A19

10. STABILITY AND REACTIVITY

Stable under the recommended storage and handling conditions (see Section 7). In a fire, hazardous decomposition products such as smoke, acrolein, carbon monoxide, carbon dioxide, and oxides of nitrogen may be produced. Keep away from oxidising agents and strongly alkaline and strongly acidic materials to prevent the possibility of an exothermic reaction. Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

There is no data available on the product itself. The product has been assessed by evaluation of its raw materials. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short term and long term exposure by oral, inhalation and dermal routes of exposure and eye contact. See Sections 3 and 15 for details of the resulting hazard classification. Splashes in the eye may cause irritation and reversible local damage. Based on the properties of the epoxy constituents and considering toxicological data on similar preparations, this preparation may be a skin sensitizer and an irritant. It contains low molecular weight epoxy constituents which are irritating to eyes, mucous membrane and skin. Repeated skin contact may lead to irritation and to sensitization, possibly with cross-sensitisation to other epoxies. Skin contact with the preparation and exposure to mist and vapour should be avoided.

Acute Oral Toxicity: LD50 (rat): >5,000mg/Kg. Acute Dermal Toxicity: LD50 (rabbit): 20,000mg/Kg.

12. ECOLOGICAL INFORMATION

There is no data available on the product itself. This product has been assessed by evaluation of its raw materials and is assessed for ecological hazards accordingly. See Sections 3 and 15 for details. The product should not be allowed to enter drains or watercourses or be deposited where it can affect ground or surface waters. Bisphenol A based liquid epoxy resins as well as many reactive diluents were classified as dangerous for the environment by the Association of Plastic Manufacturers in Europe (APME) based on available data and knowledge. When properly cured with appropriate curing agent this epoxy base is completely inert to the environment.

13. DISPOSAL CONSIDERATIONS

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with local and federal regulations.

14. TRANSPORT INFORMATION

Transport within the user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of accident or spillage.

Onward transport, subsequent to purchase:

Proper Shipping Name (tSurface): Resinous compound, "Not Regulated" by USDOT or IMO.

Proper Shipping Name (Air): Aviation regulated liquid, n.o.s.

UN Number: UN3334

Hazard Class: 9

Packing Group: III

Sub Hazard Class:

Technical Name1 (NOS entries only): (Mercaptan terminated polymer)

Technical Name 2 (NOS entries only):

Marine Pollutant: (IMDG only)(Y/N): Possible Marine Pollutant in unreacted condition – do not allow to enter water courses.

Flashpoint (IMDG only): >200°F

15. REGULATORY INFORMATION

Danger Classifications: Irritant.

Contains: Mercaptan terminated polymer ,2, 4, 6,- tri(dimethylaminomethyl)phenol and Poly(terephthaloylchloride/ p-phenylenediamine. Irritating to eyes and skin. May cause sensitisation by skin contact.

Safety Phrases: After contact with skin, wash immediately with plenty of soap and water. Wear suitable protective gloves and eye/face protection. Avoid contact with eyes. Avoid release to the environment. Refer to special instruction/Safety Data Sheet.

"P" Phrases: Do not breathe vapor. See information supplied by the manufacturer (This information is provided by this Safety Data Sheet).

The information contained in this Safety Data Sheet does not constitute the user's own assessment of the workplace risks as required by other health and safety legislation.

16. OTHER INFORMATION

Text of any GHS phrases listed in Section 3:

2-H315 – Level 2 Skin irritant

1-H317 – Level 1 Skin sensitizer

2-H319 – Level 2 eye irritant

2-411 – Level 2 Environmental hazard

4-413 – Level 4 Environmental hazard

HMIS ratings: Health: 2; Flammability: 1; Reactivity: 0.



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1. IDENTIFICATION OF PRODUCT & COMPANY

Product Reference: GS-154-WHITE
Product Name: GS-154 Epoxy Base — White
Intended Use: Anticorrosive coating component

Details of company: **Nixus International** (USA) 850-267-1237 VOICE
6620 E. Co. Hwy 30A Box U1
Watersound, FL 32461 USA

2. HAZARDS IDENTIFICATION

Hazard Statements:

H317-May cause an allergic skin reaction.

H315-causes skin irritation.

H319-Irritating to eyes and skin.

H411-Toxic to aquatic organisms in unreacted condition, may cause long term adverse effects in the aquatic environment (unmixed material only – ONCE MIXED THE MATERIAL IS HARMLESS TO ENVIRONMENT.)

H334-Do not breathe vapor or spray. May cause respiratory difficulties if inhaled.

Precautionary Statements:

P261 – Avoid breathing mist/vapours/spray.

P264 – Wash hands and skin contact areas thoroughly after handling.

P272 – Contaminated clothing should not be allowed out of the work place.

P273 – Avoid release to the environment.(ONLY IN UNMIXED STATE)

P280 – Wear protective gloves, eye protection and face protection etc.

P301 – P315+P331

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P303 – P361+P352+P332:P313

P305–P338+P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

P304–P341

P333 + P313 if skin irritation or rash occurs: Get medical advice/attention.

P337 + P313 if eye irritation persists: Get medical advice/attention.

P362 – Take off contaminated clothing and wash before reuse.

P391 – Collect spillage.

P501 – Dispose of contents/container through a waste management company authorized by the local government.

SIGNAL WORD: WARNING

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances presenting a health or environmental hazard within the meaning of the CHIP Regulations or which are assigned Occupational Exposure Values.

Substance Name	Concentration Range (%)	GHS (*)	EINECS/ELINCS No.	CAS No.
Bisphenol A liquid epoxy resin	50 – 80 %	2-H315, 1-H317, 2-H319, 2-411	500-033-5	28064-14-4
p-tertbutylphenyl glycidyl ether	5 – 10 %	2-H315, 1-H317, 2-H319, 4-413	221-453-2	3101-60-8
Poly(terephthaloylchloride/ p-phenylenediamine	2 – 5 %	2-H315, 1-H317, 2-H319, 4-413		26125-61-1

(*) for full text see Section 16

4. FIRST AID MEASURES

General: In all cases of doubt or when symptoms persist seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air, check for breathing and administer artificial respiration if necessary. Give nothing by mouth. If unconscious place in recovery position and seek medical advice. If conscious ensure the person sits or lies down. Obtain medical attention if ill effects occur.

Eye Contact: Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes holding the eyelids apart, seek medical advice if effects occur.

Skin Contact: Remove contaminated clothing and footwear. Wash skin thoroughly with soap and water or use a proprietary skin cleanser. Do NOT use solvents or thinners. Seek medical attention if irritation persists.

Ingestion: If accidentally swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting. If conscious give 1 pint of fresh water to drink. If unconscious, check for breathing and give artificial respiration if necessary.

5. FIRE FIGHTING MEASURES

Flammability Classification: Combustible IIIB

FLASH POINT: >250°F

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical, water fog.

NOT RECOMMENDED: Water jet

UNUSUAL HAZARDS: Combustion products may include, but are not limited to: phenolics, carbon dioxide, acrolein, and carbon dioxide.

SPECIAL FIREFIGHTING PROCEDURES: Use protective firefighting clothing and positive pressure self-contained breathing apparatus to protect against potential harmful and/or irritating fumes. Do not use high pressure water since this may spread the area of the fire.

6. ACCIDENTAL RELEASE MEASURES

Exclude sources of ignition and ventilate area. Exclude non-essential personnel. Avoid breathing vapours. Refer to protective measures listed in Sections 7 and 8. Contain and collect spillages with non-combustible absorbent materials e.g. sand, earth, vermiculite, diatomaceous earth and place in a suitable container for disposal in accordance with waste regulations (see Section 13).

Do not allow to enter drains or water courses. Clean preferably with a detergent, avoid use of solvents. If the product enters drains or sewers immediately contact the local water company; in the case of contamination of streams, rivers or lakes the relevant environmental agency.

Dispose of in accordance with applicable local and federal environmental control regulations.

7. STORAGE & HANDLING

Handling: Provide sufficient air exchange and/or exhaust in workrooms. Ensure adequate ventilation. Handle and open container with care. When using do not eat, drink or smoke.

Storage: Keep away from food, drink and animal feeding stuffs. Keep container tightly closed. Observe the label precautions. Store between 5 and 40°C in a dry well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorised access. Containers which are opened should be properly resealed and kept upright to prevent leakage. Store away from oxidising agents and strongly alkaline and acid materials. The principles contained in general guidance for storage of packaged potentially dangerous substances should be observed when storing this product.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures: Provide additional forced ventilation if existing natural ventilation is insufficient. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of solvent vapour and/or particulates below the relevant Occupational Exposure Values, suitable respiratory protective equipment should be worn (see "Workplace Exposure Limits" below).

Exposure Limit Values:	Substance	TWA (1)	STEL (2)	Notations
	Bisphenol A liquid epoxy resin	ppm (4) mg/m ³ (4) None Listed	ppm (4) mg/m ³ (4) None Listed	

NOTES:

(1) Long Term Exposure Limit - 8 hour Time Weighted Average.

(2) Short Term Exposure Limit - 15 minute reference period.

(3) 'Sk' indicates a risk of absorption through the skin. 'Sen' indicates a respiratory sensitizer.

(4) 'WEL' indicates Workplace Exposure Limit.

General Protection: All personal protective equipment, including respiratory protective equipment, used to control exposure to hazardous substances must be selected to meet the requirements of the OSHA regulations.

Respiratory Protection: Air fed respiratory protective equipment should be worn when sprayed if exposure of the sprayer or other people nearby cannot be controlled to below the Occupational Exposure Values and engineering methods cannot reasonably be improved.

Hand Protection: When skin exposure may occur, advice should be sought from glove suppliers on appropriate types and usage times for this product. The instructions and information provided by the glove supplier on use, storage, maintenance and replacement must be followed. Barrier creams may help to protect exposed areas of skin, but are not substitutes for full physical protection. They should not be applied after exposure has occurred.

Eye Protection: Eye protection designed to protect against liquid splashes should be worn. Cotton or cotton/synthetic overalls or coveralls are normally suitable. Grossly contaminated clothing should be removed and the skin washed with soap and water or a proprietary skin cleaner. Regular skin inspection of users of this product is recommended.

Skin Protection: ALWAYS WASH YOUR HANDS BEFORE EATING, SMOKING OR USING THE TOILET.

See Section 12 for detailed information.

9. PHYSICAL PROPERTIES

Physical State: Blue paste

Flash Point: >250°F

Viscosity: 250 – 500 Poise

Specific Gravity: 1.15Kgs/ Ltr.

Voc Content: Essentially zero under normal conditions.

Vapour Density: N/A

Solubility in Water: Immiscible

Method: DIN 51758 (Pensky-Martins Closed Cup)

Method: BS3900 Part A7

Method: BS3900 Part A19

10. STABILITY AND REACTIVITY

Stable under the recommended storage and handling conditions (see Section 7). In a fire, hazardous decomposition products such as smoke, acrolein, carbon monoxide, carbon dioxide, and oxides of nitrogen may be produced. Keep away from oxidising agents and strongly alkaline and strongly acidic materials to prevent the possibility of an exothermic reaction. Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

There is no data available on the product itself. The product has been assessed by evaluation of its raw materials. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short term and long term exposure by oral, inhalation and dermal routes of exposure and eye contact. See Sections 3 and 15 for details of the resulting hazard classification. Splashes in the eye may cause irritation and reversible local damage. Based on the properties of the epoxy constituents and considering toxicological data on similar preparations, this preparation may be a skin sensitizer and an irritant. It contains low molecular weight epoxy constituents which are irritating to eyes, mucous membrane and skin. Repeated skin contact may lead to irritation and to sensitization, possibly with cross-sensitisation to other epoxies. Skin contact with the preparation and exposure to mist and vapour should be avoided.

Acute Oral Toxicity: LD50 (rat): >5,000mg/Kg. Acute Dermal Toxicity: LD50 (rabbit): 20,000mg/Kg.

12. ECOLOGICAL INFORMATION

There is no data available on the product itself. This product has been assessed by evaluation of its raw materials and is assessed for ecological hazards accordingly. See Sections 3 and 15 for details. The product should not be allowed to enter drains or watercourses or be deposited where it can affect ground or surface waters. Bisphenol A based liquid epoxy resins as well as many reactive diluents were classified as dangerous for the environment by the Association of Plastic Manufacturers in Europe (APME) based on available data and knowledge. When properly cured with appropriate curing agent this epoxy base is completely inert to the environment.

13. DISPOSAL CONSIDERATIONS

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with local and federal regulations.

14. TRANSPORT INFORMATION

DOT Proper shipping description: NOT REGULATED FOR GROUND TRANSPORT

FOR AIR OR OCEAN TRANSPORT, See Below:

IMDG proper shipping description: Environmentally hazardous substance, liquid, n.o.s. (BisphenolA-Epichlorohydrin Epoxy resin, butylphenyl glycidyl ether)

UN#: 3082

Hazard class: 9

Packing group: PG III

Ems#: F – A, S – F

Marine pollutant: Yes

IATA Proper shipping description: Environmentally hazardous substance, liquid, n.o.s. (BisphenolA-Epichlorohydrin Epoxy resin, butylphenyl glycidyl ether)

Additional information: MARINE POLLUTANT

15. REGULATORY INFORMATION

SARA Title III section 311/312 (40CFR370): Acute health hazard

SARA Title III section 313 (40CFR372): No reportable components

CERCLA status (40CFR302): no reportable quantity components

TSCA inventory status: Reported/included

Canadian DSL Status: reported/included

Chemicals known to the state of California to cause cancer or reproductive toxicity: This product contains epichlorohydrin CAS# 106 – 89 – 8 (trace amounts)

REACH Annex XIV (SVHC): No listed components

REACH Annex XVII: No listed components

REACH status (EC 1907/2006): This material has been registered, pre-existed or is otherwise exempted from registration under the Registration, Evaluation and Authorisation of Chemical Substances.

Chemical safety assessment: Not available

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16. OTHER INFORMATION

Text of any GHS phrases listed in Section 3:

2-H315 – Level 2 Skin irritant

1-H317 – Level 1 Skin sensitizer

2-H319 – Level 2 eye irritant

2-411 – Level 2 Environmental hazard

4-413 – Level 4 Environmental hazard

HMIS ratings: Health: 2; Flammability: 1; Reactivity: 0.



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