

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**1.1. Product identifier**

Trade name or designation of the mixture      GS-1 Black  
 Registration number      -  
 Synonyms      None.  
 Issue date      03-March-2017  
 Version number      02  
 Revision date      23-July-2018  
 Supersedes date      03-March-2017

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

Identified uses      Printing ink.  
 Uses advised against      None known.

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

**Manufacturer**

Company name      Diagraph Marking & Coding  
 Address      5307 Meadowland Parkway Marion IL 62959  
 Telephone      1-800-521-3047  
 Email      msds@diagraphmsp.com  
 Contact person      Customer Service

**1.4. Emergency telephone number**      Infotrac 800-535-5053 (US only), +1-352-323-3500 (International)

**General in EU**      112 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)  
**National Poisons Information Center (NVIC)**      030-274 88 88 (Only for the purpose of informing medical personnel in cases of acute intoxications)

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

**Classification according to Regulation (EC) No 1272/2008 as amended**

**Physical hazards**

Flammable liquids      Category 3      H226 - Flammable liquid and vapour.

**Health hazards**

Serious eye damage/eye irritation      Category 2      H319 - Causes serious eye irritation.  
 Specific target organ toxicity - single exposure      Category 3 respiratory tract irritation      H335 - May cause respiratory irritation.

**Hazard summary**

Flammable liquid and vapour. May be ignited by heat, sparks or flames. Causes serious eye irritation. May cause irritation to the respiratory system. Occupational exposure to the substance or mixture may cause adverse health effects.

**2.2. Label elements**

**Label according to Regulation (EC) No. 1272/2008 as amended**

**Contains:**      Diacetone alcohol

**Hazard pictograms**



**Signal word**      Warning

**Hazard statements**

H226  
H319  
H335

Flammable liquid and vapour.  
Causes serious eye irritation.  
May cause respiratory irritation.

## Precautionary statements

### Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ventilating/lighting equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing mist or vapour.  
P264 Wash thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/eye protection/face protection.

### Response

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 If eye irritation persists: Get medical advice/attention.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P312 Call a POISON CENTRE/doctor if you feel unwell.  
P370 + P378 In case of fire: Use appropriate media to extinguish.

### Storage

P235 Keep cool.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

### Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Supplemental label information** EUH066 - Repeated exposure may cause skin dryness or cracking.

### 2.3. Other hazards

This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Diacetone alcohol	60-80	123-42-2 204-626-7	01-2119473975-21-XXXX	603-016-00-1	
<b>Classification:</b>	Flam. Liq. 3;H226, Eye Irrit. 2;H319, STOT SE 3;H335				

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.  
The full text for all H-statements is displayed in section 16.

## SECTION 4: First aid measures

#### General information

Take off all contaminated clothing immediately. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

#### 4.1. Description of first aid measures

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell.  
**Skin contact** Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.  
**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.  
**Ingestion** Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention if symptoms occur.

#### 4.2. Most important symptoms and effects, both acute and delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

**4.3. Indication of any immediate medical attention and special treatment needed** Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

## SECTION 5: Firefighting measures

**General fire hazards** Flammable liquid and vapour.

**5.1. Extinguishing media**

**Suitable extinguishing media** Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

**5.2. Special hazards arising from the substance or mixture** Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

**5.3. Advice for firefighters**

**Special protective equipment for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Special fire fighting procedures** In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

**For emergency responders** Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up.

**6.2. Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

**6.3. Methods and material for containment and cleaning up** Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

**6.4. Reference to other sections** For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling** Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapour. Avoid contact with eyes. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**7.2. Conditions for safe storage, including any incompatibilities** Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store between 35°F (2°C) and 120°F (49°C). Store away from incompatible materials (see section 10 of the SDS).

**7.3. Specific end use(s)** Printing ink.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational exposure limits** No exposure limits noted for ingredient(s).

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Recommended monitoring procedures** Follow standard monitoring procedures.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

## 8.2. Exposure controls

**Appropriate engineering controls** Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

### Individual protection measures, such as personal protective equipment

**General information** Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Eye/face protection** Wear approved safety goggles. Wear face shield if there is risk of splashes.

#### Skin protection

##### - Hand protection

Wear suitable gloves tested to EN374.

Nitrile gloves are recommended.

Full contact: Use gloves classified protection index 3 with breakthrough time of 120 minutes.

Minimum glove thickness  $0.4 \pm 0.05$  mm.

##### - Other

Wear suitable protective clothing.

#### Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Chemical respirator with organic vapour cartridge and full facepiece.

#### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

### Hygiene measures

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

### Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Black liquid.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Colour</b>	Black.
<b>Odour</b>	Characteristic.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	150 °C (302 °F)
<b>Flash point</b>	56,0 °C (132,8 °F)
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.

#### Upper/lower flammability or explosive limits

**Explosive limit - lower (%)** 1,4 % v/v

**Explosive limit – upper (%)** 8,1 % v/v

<b>Vapour pressure</b>	1,1 hPa /1 mmHg (25°C/68°F)
<b>Vapour density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	Moderately soluble in water.
<b>Partition coefficient (n-octanol/water)</b>	Not available.

Auto-ignition temperature	620 °C (1148 °F)
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
<b>9.2. Other information</b>	
Density	1,00 g/cm <sup>3</sup> (20°C/68°F)

## SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Keep away from heat, sparks and open flame. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
10.5. Incompatible materials	Strong oxidising agents. Strong acids. Strong bases. Alkali metals. Halogens.
10.6. Hazardous decomposition products	Carbon oxides.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

### Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Prolonged or repeated contact may dry skin and cause dermatitis.
Eye contact	Causes serious eye irritation.
Ingestion	May cause discomfort if swallowed.

**Symptoms** Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

### 11.1. Information on toxicological effects

Acute toxicity	May be harmful if swallowed.
Skin corrosion/irritation	Prolonged or repeated contact may dry skin and cause irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitisation	Due to partial or complete lack of data the classification is not possible.
Skin sensitisation	Due to partial or complete lack of data the classification is not possible.
Germ cell mutagenicity	Due to partial or complete lack of data the classification is not possible.
Carcinogenicity	Not classified. Inhalation of carbon black or titanium dioxide dust may cause cancer, however due to the physical form of the product, inhalation of dust is not likely.
Reproductive toxicity	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Due to partial or complete lack of data the classification is not possible.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible.
Mixture versus substance information	No information available.
Other information	No other specific acute or chronic health impact noted.

## SECTION 12: Ecological information

12.1. Toxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	
12.2. Persistence and degradability	No data is available on the degradability of this product.	
12.3. Bioaccumulative potential	No data available on bioaccumulation.	
Partition coefficient n-octanol/water (log Kow)		
Diacetone alcohol (CAS 123-42-2)		-0,098

<b>Bioconcentration factor (BCF)</b>	Not available.
<b>12.4. Mobility in soil</b>	The product is insoluble in water. Expected to have low mobility in soil.
<b>12.5. Results of PBT and vPvB assessment</b>	This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.
<b>12.6. Other adverse effects</b>	None known.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

<b>Residual waste</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>EU waste code</b>	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal methods/information</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

### SECTION 14: Transport information

#### ADR

<b>14.1. UN number</b>	UN1210
<b>14.2. UN proper shipping name</b>	Printing ink
<b>14.3. Transport hazard class(es)</b>	
Class	3
Subsidiary risk	-
Label(s)	3
Hazard No. (ADR)	30
Tunnel restriction code	D/E
<b>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	No.
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### RID

<b>14.1. UN number</b>	UN1210
<b>14.2. UN proper shipping name</b>	Printing ink
<b>14.3. Transport hazard class(es)</b>	
Class	3
Subsidiary risk	-
Label(s)	3
<b>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	No.
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### ADN

<b>14.1. UN number</b>	UN1210
<b>14.2. UN proper shipping name</b>	Printing ink
<b>14.3. Transport hazard class(es)</b>	
Class	3
Subsidiary risk	-
Label(s)	3
<b>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	No.
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### IATA

<b>14.1. UN number</b>	UN1210
<b>14.2. UN proper shipping name</b>	Printing ink
<b>14.3. Transport hazard class(es)</b>	
Class	3

<b>Subsidiary risk</b>	-
<b>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	No.
<b>ERG Code</b>	3L
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### IMDG

<b>14.1. UN number</b>	UN1210
<b>14.2. UN proper shipping name</b>	PRINTING INK
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-E, S-D
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not established.

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### Authorisations

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended**

Not listed.

#### Restrictions on use

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

#### Other EU regulations

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Not listed.

#### Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

#### National regulations

Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

## SECTION 16: Other information

### List of abbreviations

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.  
ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road.  
CEN: European Committee for Standardisation.  
DNEL: Derived No-Effect Level.  
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.  
IATA: International Air Transport Association.  
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.  
IMDG: International Maritime Dangerous Goods.  
LC50: Lethal Concentration, 50%.  
MARPOL: International Convention for the Prevention of Pollution from Ships.  
PBT: Persistent, bioaccumulative and toxic.  
PNEC: Predicted No-Effect Concentration.  
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.  
TWA: Time weighted average.  
STEL: Short term exposure limit.  
vPvB: Very Persistent and very Bioaccumulative.  
ECHA registered substances database

### References

#### Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

#### Full text of any H-statements not written out in full under Sections 2 to 15

H226 Flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

### Training information

Follow training instructions when handling this material.

### Disclaimer

Diagraph Marking & Coding cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.