

**Material Safety Data Sheet**  
acc. to ISO/DIS 11014

Printing date: 08/02/2000

Revision date: 08/02/2000

**1 Identification of substance:**

• **Product details:**

• **Trade name:** TSO-1 Black Ink

• **Article number:**

2600-201  
2600-202  
2600-240  
2600-241  
2600-242

• **Manufacturer/Supplier:**

Diagraph Corporation  
3401 Rider Trail South  
Earth City, MO 63045  
Phone:(314) 739-1221  
Fax: (314) 770-5700

• **Information Department:** Safety / Environmental

• **Emergency information:**

Contact Infotrac: (800) 535 5053 (US only)  
International: +1 352 323 3500

**2 Composition/Data on components:**

• **Chemical characterization**

• **Description:**

Mixture of the substances listed below with nonhazardous additions.

**Dangerous components:**

|                           |         |
|---------------------------|---------|
| 64-17-5 ethanol           | 60-80 % |
| 67-63-0 isopropyl alcohol | 5-20 %  |

**3 Hazards identification**

• **Hazard description:** Highly flammable

• **Information pertaining to particular dangers for man and environment:**  
Highly flammable.

• **Classification system**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

• **NFPA Ratings (scale 0-4)**

Health = 1  
Fire = 3  
Reactivity = 0

• **HMIS Rating (scale 0-4)**

Health - 1  
Flammability - 3  
Reactivity - 0

• **Routes of Entry** Ingestion

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- **Target Organs** Liver
- **Irritancy** None known
- **Sensitizing Capability** None known
- **Reproductive Effects** None known
- **Cancer Information** Not known to be carcinogenic.

**4 First aid measures**

- **After inhalation**  
Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Generally the product does not irritate the skin.
- **After eye contact**  
Rinse opened eye for several minutes under running water.
- **After swallowing**  
Induce vomiting, if person is conscious. Seek medical help.

**5 Fire fighting measures**

- **Suitable extinguishing agents**  
Special powder for metal fires. Do not use water.  
CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents**  
Water.  
Water with full jet.
- **Protective equipment:** No special measures required.

**6 Accidental release measures**

- **Person-related safety precautions:**  
Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:**  
Do not allow product to reach sewage system or any water course.  
Prevent seepage into sewage system, workpits and cellars.  
Inform respective authorities in case of seepage into water course or sewage system.
- **Measures for cleaning/collecting:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents

**7 Handling and storage**

- **Handling**
- **Information for safe handling:**  
Store in cool, dry place in tightly closed receptacles.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **Storage**
- **Requirements to be met by storerooms and receptacles:**  
Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Maximum storage temperature:** 120 F (49 C)
- **Minimum storage temperature** 35 F (2 C)

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- **Additional information about design of technical systems:**  
No further data; see item 7.

**Components with limit values that require monitoring at the workplace:**

64-17-5 ethanol

ACGIH TLV: Short-term value: 1880,A4 mg/m3, 1000,A4 ml/m3

NIOSH REL: Short-term value: 1900 mg/m3, 1000 ml/m3

OSHA PEL: Short-term value: 1900 mg/m3, 1000 ml/m3

67-63-0 isopropyl alcohol

ACGIH TLV: Short-term value: 983 mg/m3, 400 ml/m3

Long-term value: 1230 mg/m3, 500 ml/m3

NIOSH REL: Short-term value: 980 mg/m3, 400 ml/m3

Long-term value: 1225 mg/m3, 500 ml/m3

OSHA PEL: Short-term value: 980 mg/m3, 400 ml/m3

71-23-8 1-propanol

ACGIH TLV: Short-term value: 492 mg/m3, 200 ml/m3

Long-term value: 614 mg/m3, 250 ml/m3

Skin

NIOSH REL: Short-term value: 500 mg/m3, 200 ml/m3

Long-term value: 625 mg/m3, 250 ml/m3

Skin

OSHA PEL: Short-term value: 500 mg/m3, 200 ml/m3

- **Additional information:**

The lists that were valid during the creation were used as basis.

- **Personal protective equipment**
- **General protective and hygienic measures**  
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:** Protective gloves.
- **Eye protection:** Tightly sealed goggles.

**9 Physical and chemical properties:**

- **Form:** Liquid
- **Color:** Black
- **Odor:** Alcohol-like

- **Change in condition**

- **Melting point/Melting range:**

undetermined

- **Boiling point/Boiling range:**

78 ° C

- **Flash point:**

13 ° C

- **Ignition temperature:**

360 ° C

- **Auto igniting:**

Product is not selfigniting.

- **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

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- **Explosion limits:**
- **Lower:** 2.0 Vol %
- **Upper:** 15.0 Vol %
- **Vapor pressure:** at 20 ° C 59 hPa
- **Density:** at 20 ° C 0.798 g/cm3
- **Solubility in / Miscibility with**
- **Water:** Not miscible or difficult to mix
- **Solvent content:**
- **Organic solvents:** 92.8 %
- **Solids content:** 7.2 %

**10 Stability and reactivity**

- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:**  
No dangerous decomposition products known

**11 Toxicological information**

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.

**12 Ecological information:**

- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water.  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

**13 Disposal considerations**

- **Product:**
- **Recommendation**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Comply with all Federal, State, and Local regulations regarding disposal.
- **Uncleaned packagings:**
- **Recommendation:**  
Disposal must be made according to official regulations.  
Comply with all Federal, State, and Local regulations regarding disposal.

**14 Transport information**

- **DOT regulations:**
- **Hazard class:** 3
- **Identification number:** UN1210

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- **Packing group:** II
- **ERG # 129**
- **Proper shipping name (technical name):**  
Printing ink
  
- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** 3 Flammable liquids
- **Item:** 5b
- **Danger code (Kemler):** 33
- **UN-Number:** 1210
- **Description of goods:** 1210 Printing ink
  
- **Maritime transport IMDG:**
- **IMDG Class:** 3.2
- **Page:** 3291-1
- **UN Number:** 1210
- **Packaging group:** II
- **EMS Number:** 3-05
- **MFAG:** 311
- **Marine pollutant:** No
- **Proper shipping name:** Printing ink
  
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1210
- **Packaging group:** II
- **Proper shipping name:** Printing ink

**15 Regulations**

- **Product related hazard information:**  
The product has been classified and marked in accordance with directives on hazardous materials.
- **Hazard symbols:** Highly flammable
- **Risk phrases:** Highly flammable.
- **Safety phrases:**  
Keep out of the reach of children.  
Keep container tightly closed and in a well-ventilated place.  
Keep away from sources of ignition - No smoking.  
If swallowed, seek medical advice immediately and show this container or label.
- **National regulations**
- **Water hazard class:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Other regulations, limitations and prohibitive regulations**
- **OSHA Regulations**  
Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed  
OSHA Specifically Regulated Substance (29 CFR 1910.): Not listed
- **Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III, Section 313:**  
This product does not contain chemicals listed as toxic chemicals at

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