
Safety Data Sheet

Section 1


Product and Company Identification

Common Name Red Indicating Liquid	Product Model Number 2992
Product File Number 2992	Product Use Indicating Fluid
Manufacturer's Name KING-GAGE, A NOSHOK Company	Emergency Phone Numbers Chemtree 1-800-424-9300, 24 hour emergency
Address 1010 West Bagley Road	Engineering Control Data SDS - 2992-0420 Rev. 0 Drawing - 2992
City, State, Zip Berea, Ohio 44017	Date Prepared 04-30-20

Section 2

Hazards Identification

Classification of the substance or mixture

Acute toxicity, Inhalation:	Category 2
Eye irritation:	Category 2A
Chronic aquatic toxicity:	Category 3
Pictogram:	
Signal word:	WARNING.

Hazard statements

H319:	Causes serious eye irritation.
H330:	Fatal if inhaled.
H412:	Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear eye protection/face protection.
P280	Wear protective gloves.
P284	Wear respiratory protection.

Response

P304 + P340 + P310	If inhaled: <ol style="list-style-type: none">1. Remove victim to fresh air and keep at rest in a position comfortable for breathing.2. Immediately call a Poison Center or doctor/physician.
P305 +P351 + P338	If in eyes: <ol style="list-style-type: none">1. Rinse cautiously with water for several minutes.2. Remove contact lenses, if present and easy to do.3. Continue rinsing.
P320	Specific treatment is urgent: <ol style="list-style-type: none">1. Seek immediate medical attention.2. Refer to Section 4 of this Safety Data Sheet (SDS).
P337 + P313	If eye irritation persists: <ol style="list-style-type: none">1. Get medical advice/attention.
P403 + P233	<ul style="list-style-type: none">• Store in a well-ventilated place.• Keep container tightly closed.

Storage:

P405	<ul style="list-style-type: none">• Store locked up.
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Disposal:

P501	<ul style="list-style-type: none">• Dispose of contents/container to an approved waste disposal plant.
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Hazards not otherwise classified: None known.

Section 3

Composition/Information on Ingredients

1. Chemical name:	Tetrabromoethane	Common Name:	Acetylene Tetrabromide
CAS No:	79-27-6		
EC-No:	201-191-5		
% :	99		
2. Chemical name:	1-Chloronaphthalene		
CAS No:	90-13-1		
EC-No:	201-967-3		
% :	<1		

3. Chemical name:	Red Dye
CAS No:	4477-79-6
EC-No:	224-757-3
% :	Trace

Section 4 First Aid Measures

Eye contact:	<ul style="list-style-type: none"> • Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. • Remove contact lenses after the first 2 minutes and continue rinsing. • Seek immediate medical attention, preferably from an ophthalmologist.
Inhalation:	<ul style="list-style-type: none"> • If product mist or vapor causes respiratory or distress, move the exposed person to fresh air immediately. • If breathing is difficult or irregular, administer oxygen; • if respiratory arrest occurs, start artificial respiration by trained personnel. • Loosen tight fitting clothing such as collar, tie, belt or waistband. • Seek immediate medical attention.
Skin contact:	<ul style="list-style-type: none"> • Flush skin with large amounts of water while removing contaminated clothing and continue rinsing for at least 15 minutes. • If irritation persists, seek medical attention. • Wash contaminated clothing and shoes thoroughly before reuse.
Ingestion:	<ul style="list-style-type: none"> • Rinse mouth with water if victim is conscious. • Remove dentures if present. • Do not induce vomiting unless directed to do so by medical personnel. • Give 1 to 2 capfuls of water if victim is conscious, alert and able to swallow. • Never give anything by mouth to an unconscious or convulsing person. • Immediately call a Poison Center or doctor.

Most important symptoms/effects: Acute and delayed

Potential acute health effects

Eye contact:	<ul style="list-style-type: none"> • Causes severe eye irritation with redness, swelling, pain, and tearing. • Direct eye contact may cause corneal injury.
Inhalation:	<ul style="list-style-type: none"> • Inhalation of the mist or vapor causes irritation of the respiratory tract. • Symptoms may include irritation of the nose and throat, cough and shortness of breath. • Brief exposure effects may only last a few minutes. • Causes headache, nausea, loss of appetite and central nervous system depression, resulting in possible respiratory depression. • Can be fatal if inhaled. • Inhalation of toxic quantities can cause narcosis, coma and respiratory paralysis. • Kidney and severe liver damage have occurred from inhalation of this substance with symptoms such as dark urine and yellow jaundice. Breathing high vapor concentrations, especially in an enclosed area, may cause pulmonary edema and damage to the lungs.
Skin contact:	<ul style="list-style-type: none"> • Causes skin irritation with redness, itching, discomfort and possible blisters. • May be harmful if absorbed through the skin.

Ingestion:	<ul style="list-style-type: none"> • Causes irritation of the gastrointestinal tract with headache, loss of appetite, nausea, vomiting, abdominal pain and diarrhea. • Causes central nervous system depression. • May have a narcotic effect. • Causes damage to the liver and kidneys.
Chronic:	<ul style="list-style-type: none"> • Chronic exposure to this mixture can cause damage to the liver, kidneys and lungs. • Can cause general deterioration of health by an accumulation in one or many human organs.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician and hospital personnel: Treat symptomatically and supportively.

Section 5 Fire Fighting Measures

Extinguishable media

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: Water jets and high pressure streams may spread the fire.

Specific hazards arising from the chemical:

- Combustible liquid at high temperature.
- Closed containers may explode due to the buildup of pressure when exposed to extreme heat.
- During emergency conditions overexposure to decomposition products may cause a health hazard.
- Symptoms may not be immediately apparent or may be delayed.
- Obtain medical attention.

Explosion hazards:

- Not considered to be an explosion hazard.

Advice for fire-fighters:

- Full protective equipment including self-contained breathing apparatus should be used.
- Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat.
- If possible, water contaminated by this material should be contained from being discharged to any waterway, sewer or drain to prevent environmental contamination.

Section 6 Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures:

- Evacuate non-essential personnel.
- Wear all appropriate protective equipment designated in **Section 8**.
- **Do not** breathe vapors or aerosols.
- Ventilate the area.
- Do not get material on skin or clothing.

Waste disposal:

- Place in an appropriate disposal facility in compliance with Federal, State, and Local regulations.

Environmental precautions

- Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers or waterways.

Methods and materials for containment and cleaning up:

- Cover drains and contain spill. Cover spill with a large quantity of inert absorbent. Do not use combustible material such as sawdust. Shovel or sweep up material and place into an approved container for proper disposal. Observe possible restrictions (Sections 7.2 and 10.5). Do not allow material or runoff from rinsing contaminated areas to enter floor drains or storm drains and ditches which lead to waterways. Dispose of according to state and federal regulations.

Reference to other sections:

- See Sections 7 and 10 for additional waste treatment information.

Section 7

Handling and Storage

Precautions for safe handling:

- Skin and eye contact should be avoided as good industrial practice.
- Avoid inhalation of vapor or mist.
- If normal use of this material presents a respiratory hazard, use only adequate ventilation or wear an appropriate respirator.
- Protective gloves and eye protection is recommended.
- Wash hands and contaminated skin area after handling.
- Follow all warnings and precautions even after container is emptied.
- Wash thoroughly after handling or at the end of the shift.

Advice on protection against fire and explosion:

Material does not present a fire or explosion hazard.

Conditions for safe storage:

- Store in cool, dry, ventilated area away from incompatible materials (see **Section 10 Food and Drink**). Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Containers of this material may be hazardous when empty as they may retain product residues. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Do not take internally. Keep out of reach of children.
- Keep container tightly closed and upright when not in use.
- Protect container against physical damage.
- Handle in accordance with good industrial hygiene and safety practices.

Specific end uses:

- Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated. hygiene and safety practices.

Section 8

Exposure Controls/Personal Protection

Control parameters

CAS Number:	79-27-6
Ingredient:	Tetrabromoethane
OSHA/PEL:	1 ppm, 14mg/m ³ TWA
ACGIH TLV	0.1 ppm TWA
NIOSH	-----

Exposure Controls

Engineering Measures:

- Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
- Use adequate ventilation.
- Local exhaust is preferable.
- Refer to **Section 7** for additional data.

Individual protection measures:

- Wear protective clothing to prevent repeated or prolonged contact with product.
- Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substance handled.
- The chemical resistance of the protective equipment should be inquired at the representative supplier.

Hygiene measures:

- Facilities storing or using this material should be equipped with an eyewash station and safety shower.
- Change contaminated clothing .
- Preventative skin protection is recommended.
- Wash hands thoroughly after use, before eating, drinking or using lavatory.

Eye/face protection:

- Wear protective goggles or safety glasses with non-perforated side shields and face shield.
- Refer to 29 CFR 1910.133, ANSI Z87.4 or Standard EN 166.

Hand protection:	<ul style="list-style-type: none"> Wear gloves recommended by glove supplier for protection against materials in Section 3. Glove should be impermeable to chemicals and oil. Breakthrough time should be greater than the intended use period.
Respiratory protection:	<ul style="list-style-type: none"> Always use approved respirator when vapor/aerosols are generated. Where risk assessment shows air-purifying respirators are appropriate use a full-faced respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under the appropriate government standards such as NIOSH (US) or CEN (EU).
Additional protective clothing or equipment:	<ul style="list-style-type: none"> Boots, aprons, or chemical suits should be used when necessary to prevent skin contact. Eyewash fountains and safety showers should be available for emergency use.

Section 9 Physical and Chemical Properties

Appearance:	Red color.
Odor:	Sweet pungent.
Odor threshold:	No data available.
pH:	No data available.
Freezing/melting point, range:	0 °C to 2 °C (32 °F to 35.6 °F)
Initial Boiling point:	<ul style="list-style-type: none"> 119 °C (246 °F) at 15 mmHg; 150 °C (302 °F) at 150 mmHg
Evaporation rate:	No data available.
Flammability (solid, gas) :	Not applicable.
Flash point:	No data available.
Autoignition temperature:	335 °C (635 °F)
Decomposition temperature:	239 °C (462 °F)
Lower explosive limit (LEL):	No data available.
Upper explosive limit:	No data available.
Vapor pressure:	0.04 mmHg at 24 °C
Vapor density:	11.92 (air = 1)
Specific gravity:	2.96
Viscosity:	No data available.
Solubility in water:	0.063 g per 100 mL at 20 °C
Partition coefficient: n-Octanol/water:	log K _{ow} = 2.55 (calculated)
Volatiles by volume at 21 °C:	No data available.
Other data:	No data available.

Section 10

Stability and Reactivity

Reactivity:	No specific test data related to reactivity is available for this product.
Chemical stability:	<ul style="list-style-type: none">• Stable when stored under the recommended storage conditions.• Stable when handled under normal ambient temperature and working environments.
Possibility of hazardous reactions:	<ul style="list-style-type: none">• Possible risk of explosive reaction with alkali and alkaline earth metals, sodium amide and powdered metals.• Hazardous polymerization does not occur.
Conditions to avoid:	Temperature extremes; contact with incompatible materials; direct sunlight; avoid contact with most plastics and rubbers.
Incompatible materials:	Iron, rubber, various plastics, powdered metals, active metals, zinc.
Hazardous decomposition products:	Hazardous thermal decomposition products include hydrogen bromide, bromine and carbonyl bromide.

Section 11

Toxicological Information

Information on toxicological effects

Acute toxicity	<ul style="list-style-type: none">• LD50, Oral – Rat-1,200 mg/kg• LC50 inhalation – Rat-4 h- 549 mg/m³• LD50 Dermal – Rat – 5 250 mg/kg
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Skin corrosion/irritation:	Causes skin irritation.
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Eye irritation/corrosion:	Causes serious eye irritation.
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Sensitization:	No data available.
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Genotoxicity in vitro:	No data available.
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Mutagenicity	No data available.
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Specific target organ toxicity - single exposure	There is no data available.
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Specific target organ toxicity - repeated exposure	There is no data available.
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Aspiration hazard	There is no data available.
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Further information:	<ul style="list-style-type: none">• This material is not listed as a carcinogen by IARC, ACGIH, NTP, or OSHA.• No data is available regarding the mutagenicity or teratogenicity of this material in humans, nor is there available data that indicates that it causes developmental or fertility effects in humans.• Handle in accordance with good industrial hygiene and safety practice.
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Section 12

Ecological Information

Toxicity:	<ul style="list-style-type: none">• Harmful to aquatic life with long lasting effects.• Acute and prolonged toxicity to fish: LC100 – Carassius auratus (goldfish):20 mg/L
Persistent and degrade in the environment:	Not readily biodegradable.
Bioaccumulative potential:	Bioaccumulation potential is low.
Mobility in soil:	
Soil/water partition Coefficient (Koc):	Not available.
Results of PBT and vPvB assessment:	No data available
Other adverse effects:	No known significant effects or critical hazards. Additional ecological information: Do not allow material to run into surface waters, wastewater or soil. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13

Disposal Considerations

Waste treatment methods/disposal methods:	<ul style="list-style-type: none">• The generation of waste should be avoided or minimized whenever possible.• Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way.• Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.• Contact a licensed professional waste disposal service to dispose of this material along with any containment and cleanup materials.
Hazard waste:	The classification of this product meets the criteria for hazardous waste.

Section 14

Transport Information

Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

DOT (US)

Proper Shipping Name:	Tetrabromoethane
Hazard Class or Division:	6.1
Identification Number:	UN2504
Packing Group:	III
NAERG:	Guide #159
Packing Authorization:	D.O.T., Non-Bulk: 49 CFR 173.203; Bulk: 173.241
Packing Exceptions:	D.O.T., 49 CFR 173.153

ICAO/IATA (Air Transportation)

Proper Shipping Name:	Tetrabromoethane
Hazard Class or Division:	6.1
Identification Number:	UN2504
Packing Group:	III
Quantity limitations:	49cfr 175.27 and 175.75-Cargo Aircraft Only: 220 l; Passenger Aircraft/rail: 60.l

SMO/IMDG

Proper Shipping Name:	Tetrabromoethane
Hazard Class or Division:	6.1
Identification Number:	UN2504
Packing Group:	III
Marine pollutant	yes
EMS Number:	F-A, S-A

Section 15 Regulatory Information

Safety, health and environmental regulations specific for substances or mixtures

U.S. Federal Regulations

OSHA Hazard communication Standard	This material is classified as hazardous in accordance with OSHA 29 CFR 1910.1200.
OSHA Process Safety Management Planning Standard	This material is not regulated under OSHA PSM Standard 29 CFR 1910.119.
EPA Risk Management Planning Standard	This substance is not regulated under EPA RMP Standard (RMP) 40CFR Part 68.
EPA Federal Insecticide, Fungicide and Rodenticide Act	This product is not a registered Pesticide under the FIFRA, 40 CFR Part 150.
TSCA (toxic substance control act)	Tetrabromoethane (CAS #79-27-6) is listed on the EPA TSCA Inventory. It is not subject to TSCA 12(b) Export notification.
SARA 313 information	This substance is not subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986.
SARA Section 311/312 Hazard Categories	Acute health hazard, chronic health hazard.
SARA Section 302/304 Extremely Hazardous Substance	None of the chemicals in this product are subject to reporting requirements of these sections of Title III of SARA.
Comprehensive Response Compensation and Liability Act (CERCLA)	Tetrabromoethane is not a CERCLA reportable substance.
Clean Air Act (CAA)	<ul style="list-style-type: none">• This product does not contain any substance that listed as Hazardous Air Pollutants (HAPs) designated in CAA section 112(b)• This product does not contain any Class 1 Ozone depletors.• This product does not contain any Class 2 Ozone depletors.

Clean Water Act (CWA) – Priority Pollutants	<ul style="list-style-type: none"> • Not Provided. • None of the chemicals in this product are listed as Hazardous Substances under the CWA. • None of the chemicals in this product are listed as Priority Pollutants under the CWA. • None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
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State Regulations

California Prop. 65:	No products were found.
Other U.S. state inventories	Tetrabromoethane (CAS #79-27-6) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: CA, ID, ME, MN, NJ, PA, RI, WA.

Canada

D1B	Toxic material causing immediate and serious toxic effects.
D2A	Very toxic material causing other toxic effects.
Canadian National Pollutant Release Inventory (NPRI):	Tetrabromoethane (CAS #79-27-6) is not listed on the NPRI.

European Economic Community

Risk Phases

R26	Very toxic by inhalation.
R36	Irritating to the eyes.
R52/53	Harmful to aquatic organisms: may cause long-term adverse effects in the aquatic environment.

Safety Phases

S1/2	Keep locked up and out of the reach of children.
S23	Avoid contact with skin.
S27	Take off immediately all contaminated clothing.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label or the SDS whenever possible).
S61	Avoid release to the environment. Refer to the Safety Data Sheet.
WGK, Germany (water danger/protection):	No data available.

Global Chemical Inventory Lists

Country	Inventory Name	Inventory Listing*
Canada	Domestic Substance List (DSL)	Yes
Canada	Non-Domestic Substance List (NDSL)	No
Europe	Inventory of New and Existing Chemicals (EINECS)	Yes
United States	Toxic Substance Control Act (TSCA)	Yes
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*"Yes" indicates that all components of this product are in compliance with the inventory requirements administered by the governing country.
 *"No" indicates that one or more components of this product are not listed or are exempt from listing on the inventory administered by the governing country.

Chemical safety assessment

For this product a chemical safety assessment was not carried out.

Section 16

Other Information

This product is for industrial and laboratory use only.

- Do not store in open, unlabeled or mislabeled containers.
- Store in cool, dry place with adequate ventilation.
- Keep away from flames and high temperatures.
- For personal hygiene protection, we recommend that employees wash thoroughly after handling product.
- Always wash up before eating, smoking, and using toilet facilities.
- Keep out of reach of children.
- HMIS® rating: HEALTH - 2 FLAMMABILITY - 0 REACTIVITY-1.
- NFPA rating: HEALTH-3, FLAMMABILITY- 0, INSTABILITY-1.

Hazardous Material Information System (HMIS)

Health	* 2
Flammability	0
Physical Hazard	0
Personal Protection	C

HMIS & NFPA Hazard Rating Legend

* = Chronic Health Hazard 2 = MODERATE
0 = INSIGNIFICANT 3 = HIGH
1 = SLIGHT 4 = EXTREME



Safety Glasses



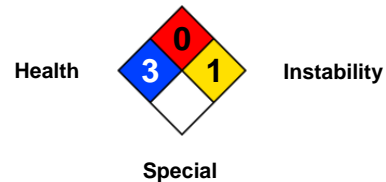
Gloves



Protective Apron

National Fire Protection Association (NFPA)

Flammability



Disclaimer of Liability

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of the results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. User of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO THE INFORMATION CONTAINED HEREIN OR THE CHEMICAL TO WHICH THE INFORMATION REFERS. It is the responsibility of the user to comply with all applicable federal, state, local laws and regulations.

Preparation date: 04-30-20

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