SAFETY DATA SHEET

Revision Date 18-Aug-2015 **Version** 1

1. IDENTIFICATION

Product Name Triethanolamine, 99%

Product Code 9709
CAS No. 102-71-6
Chemical Formula $C_6H_{15}NO_3$

Recommended Use For laboratory, scientific, R&D or manufacturing use.

Company E K Industries, Inc.
1403 Herkimer St.
Joliet, IL 60432
Tel. (800) 283-4244
Emergency Telephone Call CHEMTREC 1-800-424-9300 (EKI CCN 7453)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B

Label elements

Signal word
Warning

Hazard statements
Causes skin irritation. Causes eye irritation.



Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Precautionary Statements - Storage
Store in accordance with local regulations.

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Triethanolamine	102-71-6	>95

4. FIRST AID MEASURES

Description of first aid measures

Eye contact Flush eyes with plenty of water, removing contact lenses if present. Get medical attention if irritation develops.

Skin contact Wash thoroughly with soap and water while removing contaminated garments. Get medical attention if irritation develops.

Inhalation Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion Rinse mouth and drink several glasses of water. Contact a physician or poison control center if symptoms develop.

Most important symptoms and effects, both acute and delayed

Symptoms Causes skin, eye and respiratory tract irritation. If swallowed, causes GI disturbances. May cause allergic skin reaction.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Unsuitable extinguishing media
Do not use a solid water stream as it may scatter and spread fire

Specific hazards arising from the chemical
No information available.

Hazardous combustion products
Carbon oxides. Ammonia. Nitrogen oxides (NOx).

Protective equipment and precautions for firefighters
Firefighters should wear self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

NFPA **Health hazards** 2 **Flammability** 1 **Instability** 0 **Physical and Chemical Properties** -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Neutralize base prior to using absorbent material. Absorb spill with inert material, scoop up and containerize for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling Use personal protective equipment as required
Handle in accordance with good industrial hygiene and safety practice.

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Acids. Strong oxidizing agents. Metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Triethanolamine 102-71-6	TWA: 5 mg/m³	-	-

Appropriate engineering controls

Engineering Controls Emergency showers, eyewash stations, ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Liquid
Appearance Clear, Colorless to light yellow
Odor Slight smell of ammonia
Odor threshold No information available

pH 10.5-11.5
Melting point / freezing point 21 C
Boiling point / boiling range 335.40 C
Flash point 190 C
Evaporation rate No information available
Flammability (solid, gas) No information available
Flammability Limit in Air
Upper flammability limit: No information available
Lower flammability limit: No information available

Vapor pressure	No information available
Vapor density	5.2
Relative density	1.124
Water solubility	Soluble in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available

10. STABILITY AND REACTIVITY

Stability Stable under recommended storage conditions.

Possibility of Hazardous Reactions None under normal processing.

Conditions to avoid Heat. Exposure to air or moisture over prolonged periods.

Incompatible materials Acids. Strong oxidizing agents. Metals.

Hazardous Decomposition Products Carbon oxides. Nitrogen oxides (NOx). Ammonia.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Avoid breathing vapors or mists.

Eye contact May cause irritation.

Skin contact May cause irritation.

Ingestion No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Triethanolamine 102-71-6	= 4190 mg/kg (Rat)	> 20 mL/kg (Rabbit) > 16 mL/kg (Rat)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes, respiratory system and skin.
Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen

Chemical Name	ACGIH	IARC	NTP	OSHA
Triethanolamine 102-71-6	-	Group 3	-	-

Legend

IARC (International Agency for Research on Cancer)
Group 3 - Not classifiable as to carcinogenicity in humans

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12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Triethanolamine 102-71-6	216: 72 h Desmodesmus subspicatus mg/L EC50 169: 96 h	10600 - 13000: 96 h Pimephales promelas mg/L LC50 flow-through	1386: 24 h Daphnia magna mg/L EC50

	Desmodesmus subspicatus mg/L EC50	1000: 96 h Pimephales promelas mg/L LC50 static 450 - 1000: 96 h Lepomis macrochirus mg/L LC50 static	

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
Triethanolamine 102-71-6	-2.53

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container. Emptied containers may contain residue. Continue to follow label warnings after container is emptied.

14. TRANSPORT INFORMATION

Transportation information is provided as a general reference only and may not be applicable in all situations. This information applies to non-bulk shipments only. Per 49 CFR §173.22, it is the shipper's responsibility to ensure that all materials are properly packaged, classified and labeled prior to shipment.

DOT Not regulated

IATA Not regulated

15. REGULATORY INFORMATION

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Triethanolamine 102-71-6	X	X	X

16. OTHER INFORMATION

Prepared By EKI Regulatory Affairs (Email: reg@eki-chem.com)
Revision Date 18-Aug-2015

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End of Safety Data Sheet