

1. Identification

RelaTECH Steel Ink Remover

Product identifier

Other means of identification

Product Code 951189999SI
SDS 422

Recommended use

This product is intended for use in removing steel marking ink. Use in other applications may result in higher exposures and require additional controls, such as local exhaust ventilation and personal protective equipment

Recommended restrictions

None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured For: RelaDyne, LLC
 8280 Montgomery Road, Suite 101
 Cincinnati, OH 45236
 www.reladyne.com

General Assistance Phone

888-830-3156

Emergency Telephone

INFOTRAC 800-535-5053

2. Hazard(s) identification

Physical hazards

Flammable liquids Category 4

Acute toxicity, oral Category 4

Health hazards

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2A

Reproductive toxicity Category 2

Acute Toxicity Dermal Category 3

Specific target organ toxicity, single exposure Category 3 narcotic effects

Specific target organ toxicity, repeated exposure Category 2

Aspiration hazard Category 1

Environmental hazards

Not classified

OSHA defined hazards

Not classified.

Label elements



Signal word

Danger

Hazard statement

Extremely flammable liquid and vapor. Fatal if swallowed or if inhaled. Toxic in contact with skin. Causes serious eye irritation. Causes skin irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. May cause damage to organs (Central nervous system) through prolonged or repeated exposure.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Do not breathe gas/fumes/vapor/spray. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. When using, do not eat, drink or smoke. Wash exposed area thoroughly after handling.

Response

In case of fire: Use alcohol-resistant foam, carbon dioxide, dry powder or water fog for extinction. If swallowed: Immediately call a poison center/doctor. Rinse mouth. Do NOT induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. 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. Take off contaminated clothing and wash before reuse. Get medical advice/attention if you feel unwell. If exposed or concerned: Call a poison center/doctor.

Storage

Store container tightly closed in well-ventilated place. Keep cool. Store locked up.

Disposal

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

Hazard(s) not otherwise classified (HNOC)

None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Toluene	108-88-3	> 35
Acetone	67-64-1	> 30
2-Butoxethanol	111-76-2	> 35

4. First-aid measures

Inhalation

Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Skin contact

Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes. If high pressure injection under the skin occurs, always seek medical attention.

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.

Ingestion

Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Do not give mouth-to-mouth resuscitation. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention immediately.

Most important symptoms/effects, acute and delayed

Irritation. Drowsiness and dizziness. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information

If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.

5. Fire-fighting measures

Suitable extinguishing media

Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Vapor may cause flash fire. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.

Special protective equipment and precautions for firefighters

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire-fighting equipment/instructions

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Vapors may form explosive air mixtures even at room temperature. Prevent buildup of vapors or gases to explosive concentrations. Some of these materials, if spilled, may evaporate leaving a flammable residue. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.

Specific methods

Use water spray to cool unopened containers.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Local authorities should be advised if significant spills cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.

Methods and materials for containment and cleaning up

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Extinguish all flames in the vicinity. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Small Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Cover with plastic sheet to prevent spreading. Collect spillage. Following product recovery, flush area with water. Prevent product from entering drains. Do not allow material to contaminate ground water system. Clean surface thoroughly to remove residual contamination. Wipe up with absorbent material (e.g. cloth, fleece).

Never return spills in original containers for re-use. Prevent entry into waterways, sewers, basements or confined areas. Stop leak if you can do so without risk. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Dike the spilled material, where this is possible. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Should not be released into the environment. Do not allow material to contaminate ground water system. Prevent product from entering drains.

Environmental precautions

If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Flammable. Review Firefighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 1-800-424-8802. For highway or railways spills, contact Chemtrec at 1-800-424-9300.

7. Handling and storage

Precautions for safe handling

Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.

Wear personal protective equipment. Do not breathe gas/fumes/vapor/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Use only with adequate ventilation. Wash thoroughly after handling. The product is extremely flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. When using, do not eat, drink or smoke. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities

Flammable liquid storage. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. The pressure in sealed containers can increase under the influence of heat. Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feedings. Keep out of the reach of children.

8. Exposure controls/personal protection

Occupational exposure limits

Component (CAS Number) 2-BUTOXYETHANOL (111-76-2)

ACGIH 20 ppm TWA OSHA 50 ppm TWA; 240 mg/m³ TWA (skin)

Component (CAS Number) ACETONE (67-64-1)

ACGIH 500 ppm TWA; 750 ppm STEL OSHA 1000 ppm TWA; 2400 mg/m³ TWA

Component (CAS Number) TOLUENE (108-88-3)

ACGIH 20 ppm TWA OSHA 200 ppm TWA; 200 ppm CEIL; AMP 500 ppm 10 minutes

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Toluene (CAS 108-88-3) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Toluene (CAS 108-88-3) Skin designation applies.

Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.

Skin protection

Hand protection

Avoid exposure - obtain special instructions before use. Wear protective gloves. Protective gloves.

Other

Wear chemical-resistant, impervious gloves. Full body suit and boots are recommended when handling large volumes or in emergency situations. Flame retardant protective clothing is recommended.

Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workplace exposure limits for product or components are exceeded, NIOSH approved equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for nonroutine and emergency use.

Thermal hazards

Not available.

General hygiene considerations

Consult supervisor for special handling instructions. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Colorless liquid.
Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	Sweet. Pungent.
Odor threshold	306-653 ppm; 737-1574 mg/m ³
pH	7
Melting point/freezing point	-75 °C
Initial boiling point and boiling range	132.8 °F (56 °C)
Flash point	-18 °C or -0.4 °F
Evaporation rate	2 (n-Butyl Acetate = 1)
Flammability (solid, gas)	FLAMMABLE LIQUID
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.1 %
Flammability limit - upper (%)	12.8 %
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	3.2 kPa (24 mm Hg) Room Temperature
Vapor density	4
Relative density	0.899-0.904 @ 20C
Solubility(ies)	
Solubility (water)	Acetone and 2-Butoxyethanol are soluble. Toluene is Very Slightly soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	460 °F (237.8 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Molecular formula	Not Determined
Molecular weight	Not Determined
Percent volatile	100 %

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Stable under normal temperature conditions and recommended use.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks. Ignition sources. Contact with incompatible materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.
Incompatible materials	Strong oxidizing agents. Reducing agents. Acids. Alkalis.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Harmful if swallowed. May be fatal if swallowed and enters airways.
Inhalation	May cause drowsiness or dizziness. May cause damage to organs (Central nervous system) through prolonged or repeated exposure.
Skin contact	Causes skin irritation.
Eye contact	Causes eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics Irritation. Drowsiness and dizziness. May cause damage to organs (Central nervous system) through prolonged or repeated exposure.

Information on toxicological effects

Acute toxicity Harmful if swallowed - may enter lungs if swallowed or vomited.

Components	Species	Test Results
Steel Ink Remover		
Acute		
<i>Dermal</i>		
LD50	Rabbit	220 ml/kg
<i>Inhalation</i>		
LC50	Rat	50.1 mg/l, 8 Hours
<i>Oral</i>		
LD50	Rat	470 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not assigned.

Skin sensitization Not assigned.

Germ cell mutagenicity Not assigned.

Carcinogenicity This material is not classified as a carcinogen by IARC, ACGIH, NTP or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Steel Ink Remover 3 Not classifiable as to carcinogenicity to humans.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None

Reproductive toxicity May damage fertility or the unborn child.
Avoid contact during pregnancy/while nursing. Toluene: May adversely affect the developing fetus.

Specific target organ toxicity - single exposure May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure May cause damage to organs (Central nervous system) through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Toluene has been reported to decrease immunological responses and cause recordable hearing loss in laboratory animals. Contains organic solvents which in case of overexposure may depress the central nervous system causing dizziness and intoxication.

Further information Abusive inhalation of toluene ("glue sniffing") has been reported to be associated with birth defects in the offspring of abusers.

12. Ecological information

Ecotoxicity

Components	Species	Test Results
Toluene (CAS 108-88-3)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Pink salmon (Oncorhynchus gorbuscha) 6.86 - 8.48 mg/l, 96 hours

Persistence and degradability	Rapidly biodegradable
Bioaccumulative potential	Low
Partition coefficient n-octanol / water (log Kow) Toluene (CAS 108-88-3)	2.73
Mobility in soil	Not available.
Other adverse effects	None known.

13. Disposal considerations

Disposal instructions	Dispose in accordance with all applicable regulations. This material and its container must be disposed of as hazardous waste. Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.
Local disposal regulations	Dispose of in accordance with local regulations.
Hazardous waste code	D001: Waste Flammable material with a flash point <140 °F

US RCRA Hazardous Waste U List: Reference

Waste from residues / unused products	Dispose in accordance with all applicable regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.

14. Transport information

DOT

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUIDS N.O.S. UN 1993 PG II
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Special precautions for user	Not available.
Special provisions	IB2, T4, TP1
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	Do not ship by air.
UN proper shipping name	
Transport hazard class(es)	
Class	
Subsidiary risk	-
Packing group	
Environmental hazards	
ERG Code	
Special precautions for user	Not available.

IMDG

UN number	
UN proper shipping name	FLAMMABLE LIQUID N.O.S. UN 1993 PG II
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
Special precautions for user	Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

This product is a liquid and when transported in bulk is covered under MARPOL 73/78 Annex II.
This product is listed in the IBC Code.
Ship type: 3
Pollution category: Y

15. Regulatory information

US federal regulations

This product is hazardous according to OSHA 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

CERCLA Hazardous Substance List (40 CFR 302.4)

Toluene (CAS 108-88-3)

LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
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Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Toluene (CAS 108-88-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)

Hazardous substance
Priority pollutant
Toxic pollutant

Safe Drinking Water Act (SDWA)

0 mg/l
1 mg/l

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Toluene (CAS 108-88-3) 6594

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Toluene (CAS 108-88-3) 35 % weight/volumn

DEA Exempt Chemical Mixtures Code Number

Toluene (CAS 108-88-3) 594

US state regulations

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Toluene (CAS 108-88-3)

US. New Jersey Worker and Community Right-to-Know Act

Toluene (CAS 108-88-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Toluene (CAS 108-88-3)

US. Rhode Island RTK

Toluene (CAS 108-88-3)

US. California Proposition 65**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**Toluene
(CAS108-88-3)**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 06-01-2015

Revision date 01-19-2016

Version # 02

NFPA Ratings**Disclaimer**

This Safety Data Sheet is prepared according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012. The information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.