

## 1. Identification of the Substance/Preparation and of the Company/Undertaking

### Product Identifier

**Product Name** Release Agent  
**Product Code(s)** 20-8185-002, 20-8185-008, 20-8185-016, 20-8185-032, 20-8186-004, 20-8186-032  
**(M)SDS Number** 1350448\_A

### Other means of identification

**UN-No** UN1262  
**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended Use** Laboratory use  
**Uses advised against** No information available

### Details of the Supplier of the Safety Data Sheet

**Manufacturer** Buehler  
**Manufacturer Address** 41 Waukegan Rd  
Lake Bluff, IL 60044  
www.buehler.com  
**Phone number** +1 847 295 6500  
**E-mail address** custserv@buehler.com

### Emergency Telephone Number

Global Access Code: 334545  
Americas: +1 760 476 3962  
Middle East/Africa: +1 760 476 3959  
Asia Pacific: +1 760 476 3960  
Europe: +1 760 476 3961

## 2. Hazards Identification


### Classification

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

Skin Corrosion/Irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Aspiration Toxicity	Category 1
FLAMMABLE LIQUIDS	Category 2

### GHS Label elements, including precautionary statements

**EMERGENCY OVERVIEW**

<b>Signal Word</b>	<b>DANGER</b>		
<b>hazard statements</b>	CAUSES SKIN IRRITATION May cause drowsiness or dizziness May be fatal if swallowed and enters airways Very toxic to aquatic life with long lasting effects Highly flammable liquid and vapor		
			
<b>Appearance</b>	Clear	<b>Physical state</b>	Liquid
			<b>Odor</b> Petroleum

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Use explosion-proof electrical/ ventilating/ lighting/ equipment  
 Avoid release to the environment

**Precautionary Statements - Response**

Specific treatment (see supplemental first aid instructions on this label)

**skin**

If skin irritation occurs: Get medical advice/attention  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Wash contaminated clothing before reuse

**INHALATION**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Call a POISON CENTER or doctor/physician if you feel unwell

**INGESTION**

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
 Do NOT induce vomiting

**FIRE**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Precautionary Statements - Storage**

Store locked up

Store in a well-ventilated place. Keep container tightly closed

#### **Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

#### **Hazards Not Otherwise Classified (HNOC)**

Not Applicable

#### **Unknown toxicity**

0 % of the mixture consists of ingredient(s) of unknown toxicity

#### **OTHER INFORMATION**

Very toxic to aquatic life with long lasting effects  
Prolonged or repeated contact may dry skin and cause irritation

#### **Interactions with other chemicals**

No information available.

### **3. Composition/information on Ingredients**

Chemical name	CAS No.	Weight-%	Trade secret
Isooctane	540-84-1	90 - 100%	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

### **4. First Aid Measures**

#### **FIRST AID MEASURES**

##### **General advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

##### **Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing.

##### **Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.

##### **INHALATION**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen.

##### **INGESTION**

Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Call a physician or poison control center immediately.

##### **Self-Protection of the First Aider**

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

#### **Most Important Symptoms and Effects, Both Acute and Delayed**

##### **Most important symptoms and effects**

Coughing and/ or wheezing. Dizziness. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Asthma-like and/ or

skin allergy-like symptoms.

#### **Indication of Any Immediate Medical Attention and Special Treatment Needed**

**Notes to physician** Treat symptomatically.

### **5. Fire-fighting measures**

#### **Suitable extinguishing media**

Dry chemical, CO<sub>2</sub>, water spray or regular foam. Use water spray or fog; do not use straight streams.

#### **Unsuitable Extinguishing Media**

CAUTION: Use of water spray when fighting fire may be inefficient.

#### **Specific Hazards Arising from the Chemical**

Vapors may travel to source of ignition and flash back.

#### **Explosion Data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** yes.

#### **Protective Equipment and Precautions for Firefighters**

Wear self contained breathing apparatus for fire fighting if necessary. Cool containers with flooding quantities of water until well after fire is out.

### **6. Accidental release measures**

#### **Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Remove all sources of ignition.

#### **Environmental Precautions**

**Environmental Precautions** Prevent entry into waterways, sewers, basements or confined areas. Local authorities should be advised if significant spillages cannot be contained.

#### **Methods and material for containment and cleaning up**

**Methods for Containment** A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

**Methods for Cleaning Up** Use clean non-sparking tools to collect absorbed material. Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

## 7. Handling and Storage

### Precautions for Safe Handling

**Handling** Avoid contact with skin and eyes. Avoid breathing vapors or mists. Use explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not smoke.

### Conditions for safe storage, including any incompatibilities

**Storage** Keep in a dry, cool and well-ventilated place. Keep container tightly closed.

**Incompatible products** Strong oxidizing agents.

## 8. Exposure Controls/Personal Protection

### Control Parameters

**Exposure guidelines** The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Isooctane 540-84-1	TWA: 300 ppm	-	

*ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health*

### Appropriate Engineering Controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

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

**Eye/Face Protection** Tight sealing safety goggles. Face protection shield.

**Skin and Body Protection** Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves. Neoprene gloves. Nitrile rubber. Butyl rubber. Chemical resistant apron. Antistatic boots.

**Respiratory Protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

## 9. Physical and Chemical Properties

### Physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odor</b>	Petroleum
<b>Appearance</b>	Clear	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		
<b>Property</b>	<b>Values</b>	<b>Remarks</b>	<b>Method</b>
<b>pH</b>	No data available		
<b>Melting / freezing point</b>	No data available	None known	
<b>Boiling point / boiling range</b>	97.7 - 98.9 °C / 208 - 210 °F		
<b>Flash Point</b>	-12 °C / 10 °F		
<b>Evaporation Rate</b>	No data available	None known	
<b>Flammability (solid, gas)</b>	No data available	None known	
<b>Flammability Limit in Air</b>			
<b>Upper flammability limit</b>	No data available		
<b>Lower flammability limit</b>	No data available		
<b>Vapor pressure</b>	55 hPa (41 mmHg) at 21°C (70°F)	None known	
<b>Vapor density</b>	3.94 - (Air = 1.0)	None known	
<b>Specific gravity</b>	0.69 g/cm <sup>3</sup>		
<b>Water Solubility</b>	Insoluble		
<b>Solubility in Other Solvents</b>	no data available	None known	
<b>Partition coefficient: n-octanol/water</b>	No data available	None known	
<b>Autoignition temperature</b>	No data available	None known	
<b>Decomposition temperature</b>	No data available	None known	
<b>Kinematic viscosity</b>	No data available	None known	
<b>Dynamic viscosity</b>	No data available	None known	
<b>Explosive Properties</b>	no data available		
<b>Oxidizing Properties</b>	no data available		

**OTHER INFORMATION**

<b>Softening Point</b>	No data available
<b>VOC Content (%)</b>	No data available
<b>Particle Size</b>	No data available
<b>Particle Size Distribution</b>	

## 10. Stability and Reactivity

**Reactivity**

No data available.

**Chemical Stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

If overheated, the product may release flammable vapors that can form explosive gas mixtures.

**Conditions to Avoid**

Heat, flames and sparks. Extremes of temperature and direct sunlight.

**Incompatible Materials**

Strong oxidizing agents.

**Hazardous decomposition products**

None known based on information supplied.

## 11. Toxicological Information

**Information on likely routes of exposure****Product information**

<b>INHALATION</b>	Specific test data for the substance or mixture is not available.
<b>Eye Contact</b>	Irritating to eyes.
<b>Skin Contact</b>	Irritating to skin.
<b>INGESTION</b>	HARMFUL IF SWALLOWED.

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Isooctane 540-84-1	> 2500 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	= 47.4 mg/L ( Rat ) 1 h

**Symptoms related to the physical, chemical and toxicological characteristics**

<b>Symptoms</b>	Erythema (skin redness). May cause redness and tearing of the eyes. Difficulty in breathing. Coughing and/ or wheezing. Asthma-like and/ or skin allergy-like symptoms. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
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**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>sensitization</b>	No information available.
<b>Mutagenic effects</b>	No information available.
<b>carcinogenicity</b>	Contains no ingredient listed as a carcinogen.
<b>Reproductive Toxicity</b>	No information available.
<b>STOT - Single Exposure</b>	Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). If this product is a mixture, the classification is not based on toxicology studies for this product, but is based solely on toxicology studies for ingredients found within this product. Detailed substance and/or ingredient information may be provided in other sections of this SDS. Target organs effects listed in this document may result from a single overexposure to this product. Central Nervous System (CNS).
<b>STOT - Repeated Exposure</b>	No information available.
<b>Target organ effects</b>	None known.
<b>Aspiration hazard</b>	No information available.

**Numerical measures of toxicity Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

**12. Ecological Information**

This product contains a chemical which is listed as a marine pollutant according to DOT

**ecotoxicity**

Very toxic to aquatic life with long lasting effects.

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.

**13. Disposal Considerations**

**Waste Treatment Methods**

**Disposal Methods**

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Should not be released into the environment. Dispose of contents/containers in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging**

Dispose of contents/containers in accordance with local regulations.

**US EPA Waste Number**

D001

**California Waste Codes**

331

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste
Isooctane 540-84-1	Toxic Ignitable

**14. Transport information**

**DOT**

**UN-No** UN1262  
**Proper shipping name** OCTANES  
**Hazard class** 3  
**Packing group** II  
**Marine pollutant** This product contains a chemical which is listed as a marine pollutant according to DOT  
**Description** UN1262, OCTANES, 3, II (ISOCTANE)  
**Emergency response guide number** 128

**TDG**

**UN number** UN1262  
**Proper shipping name** OCTANES  
**Hazard class** 3



**Packing group** II  
**Description** UN1262, OCTANES, 3, II

**MEX**

**UN-No** UN1262  
**Proper shipping name** OCTANES  
**Hazard class** 3  
**Packing group** II  
**Description** UN1262, OCTANES, 3, II

**ICAO**

**UN-No** UN1262  
**Proper shipping name** OCTANES  
**Hazard class** 3  
**Packing group** II  
**Description** UN1262, OCTANES, 3, II

**IATA**

**UN-No.** UN1262  
**Proper Shipping Name** OCTANES  
**Hazard Class** 3  
**Packing Group** II  
**ERG Code** 3H  
**Description** UN1262, OCTANES, 3, II

**IMDG/IMO**

**UN-No.** UN1262  
**Proper Shipping Name** OCTANES  
**Hazard Class** 3  
**Packing Group** II  
**EmS-No.** F-E, S-E  
**Marine Pollutant** This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO  
**Description** UN1262, OCTANES (ISOOCTANE), 3, II, (-7°C C.C.), MARINE POLLUTANT

**RID**

**UN-No.** UN1262  
**Proper Shipping Name** OCTANES  
**Hazard Class** 3  
**Packing Group** II  
**Classification code** F1  
**Description** UN1262, OCTANES, 3, II, ENVIRONMENTALLY HAZARDOUS

**ADR**

**UN-No.** UN1262  
**Proper Shipping Name** OCTANES  
**Hazard Class** 3  
**Packing Group** II  
**Classification code** F1  
**Tunnel restriction code** (D/E)  
**Description** UN1262, OCTANES, 3, II, ENVIRONMENTALLY HAZARDOUS

**ADN**

**UN-No** UN1262  
**Proper shipping name** OCTANES  
**Hazard class** 3  
**Packing group** II  
**Classification Code** F1  
**Description** UN1262, OCTANES, 3, II  
**Hazard Labels** 3

Limited quantity 1 L  
 Ventilation VE01

**15. Regulatory Information**

**International Inventories**

TSCA Complies  
 DSL All components are listed either on the DSL or NDSL  
 IECSC

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

**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 yes  
 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, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Isooctane 540-84-1	1000 lb		RQ 1000 lb final RQ RQ 454kg final RQ

**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	Rhode Island	Illinois
Isooctane 540-84-1	X	X	X	X	X

**International regulations**

**CANADA**

WHMIS Hazard Class  
 Not Determined

## 16. Other Information

<b>NFPA</b>	<b>Health hazards</b> 2	<b>flammability</b> 3	<b>Instability</b> 0	<b>Physical and chemical hazards</b> -
<b>HMIS</b>	<b>Health hazards</b> 3	<b>flammability</b> 2	<b>Physical hazard</b> 0	<b>PERSONAL PROTECTION</b> X

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**Revision note** No information available

**Disclaimer**

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**End of Safety Data Sheet**