

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Issuing Date 15-Sep-2016

Revision Date 13-Apr-2017

Revision Number 2

EGHS / English

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. 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_E
Chemical name	

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Laboratory Use Only.
Uses advised against	No information available.

1.3. Details of the supplier of the safety data sheet

Manufacturer	ITW Test & Measurement GmbH
Manufacturer Address	Boschstraße 10 73734 Esslingen am Neckar / GERMANY www.buehler-met.de www.buehler.fr www.buehler.co.uk
Phone number	+49 (0) 711 4904690-0
E-mail Address	lab.eu@buehler.com

1.4. Emergency telephone number

Global Access Code: 334545	
Americas: +1 760 476 3962	Europe: +1 760 476 3961
Middle East/Africa: +1 760 476 3959	Asia Pacific: +1 760 476 3960
UK: +44 8 08 189 0979	

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture**Regulation (EC) No 1272/2008**

Aspiration toxicity	Category 1 - (H304)
Skin corrosion/irritation	Category 2 - (H315)
Specific target organ toxicity (single exposure)	Category 3 - (H336)
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)
Flammable liquids	Category 2 - (H225)

2.2. Label elements**Signal word****Danger****Hazard Statements**

H315 - Causes skin irritation

H336 - May cause drowsiness or dizziness

H410 - Very toxic to aquatic life with long lasting effects

H304 - May be fatal if swallowed and enters airways

H225 - Highly flammable liquid and vapor

Precautionary Statements - EU (§28, 1272/2008)

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor

P331 - Do NOT induce vomiting

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

2.3. Other hazards

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

Chemical name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Isooctane	208-759-1	540-84-1	90 - 100%	Skin Irrit. 2 (H315) Flam. Liq. 2 (H225)SE 3 (H336)Tox. 1 (H304)Acute 1 (H400)Chronic 1 (H410)	

Full text of H- and EUH-phrases: see section 16

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Chemical name	CAS No	SVHC candidates
Isooctane	540-84-1	-

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Inhalation	Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical advice/attention. Delayed pulmonary edema may occur.
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.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Aspiration hazard if swallowed - can enter lungs and cause damage. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get immediate medical advice/attention.
Self-protection of the first aider	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8). Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances.
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Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical, Carbon dioxide (CO₂), Water spray, Alcohol resistant foam.

Unsuitable extinguishing media No information available.

5.2. Special hazards arising from the substance or mixture**Specific hazards arising from the chemical**

Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.3. Advice for firefighters**Special protective equipment for fire-fighters**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation.

Other Information Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Advice on safe handling Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces.

- No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

General Hygiene Considerations 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. Wear suitable gloves and eye/face protection.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep out of the reach of children. Store away from other materials.

7.3. Specific end use(s)

Risk Management Methods (RMM)

The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits

Chemical name	EU	United Kingdom	France	Spain	Germany
Isooctane 540-84-1	-	-	TWA: 1000 mg/m ³ STEL: 1500mg/m ³	TWA: 300 ppmTWA: 1420 mg/m ³	-
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Isooctane 540-84-1	-	-	-	TWA: 300 ppmTWA: 1400 mg/m ³ STEL: 380 ppmSTEL: 1800 mg/m ³	-
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Isooctane 540-84-1	STEL 1200 ppmSTEL 5600 mg/m ³ TWA: 300 ppmTWA: 1400 mg/m ³	STEL: 600 ppmSTEL: 2800mg/m ³ TWA: 300 ppmTWA: 1400 mg/m ³	-	TWA: 40 ppmTWA: 275 mg/m ³ STEL: 60 ppmSTEL: 343.75mg/m ³	-

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

8.2. Exposure controls**Personal protective equipment**

Eye/face protection	Tight sealing safety goggles. If splashes are likely to occur, wear safety glasses with side-shields.
Hand Protection	Wear suitable gloves. Impervious gloves.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

Environmental exposure controls No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Physical state	Liquid
Appearance	Clear
Odor	Petroleum
Color	No information available
Odor Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks Method</u>
pH	No data available	
Melting / freezing point	No data available	None known
Boiling point / boiling range	96°C °C	
Flash Point	-5°C C	
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	0.720	
Water Solubility	Insoluble	
Solubility(ies)	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	398°C	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Viscosity	No data available	None known

9.2. Other information

Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	~93%
Liquid Density	No information available
Bulk Density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

Explosion Data

Sensitivity to Mechanical Impact

None.

Sensitivity to Static Discharge

Yes.

10.3. Possibility of hazardous reactions

Possibility of Hazardous Reactions None under normal processing.

10.4. Conditions to avoid

Heat, flames and sparks.

10.5. Incompatible materials

Strong acids, Strong bases, Strong oxidizing agents.

10.6. Hazardous decomposition products

None under normal use conditions.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract. May cause drowsiness or dizziness.
Eye contact	Specific test data for the substance or mixture is not available. May cause irritation. Irritating to eyes. (based on components). May cause redness, itching, and pain.
Skin contact	Repeated exposure may cause skin dryness or cracking. Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
Ingestion	Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on toxicological effects

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Redness. May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Numerical measures of toxicity**Acute Toxicity**

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

ATEmix 11.85 mg/L
(inhalation-dust/mist)

Unknown acute toxicity

- 100 % of the mixture consists of ingredient(s) of unknown toxicity
- 100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

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

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

Skin corrosion/irritation Classification based on data available for ingredients. Irritating to skin.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive Toxicity No information available.

STOT - single exposure May cause drowsiness or dizziness.

STOT - repeated exposure No information available.

Aspiration hazard May be fatal if swallowed and enters airways.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Persistence and Degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

Chemical name	PBT and vPvB assessment
Isooctane	Not applicable

12.6. Other adverse effects

Other adverse effects No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging No information available.

Section 14: TRANSPORT INFORMATION

IMDG/IMO

14.1 UN-No.	UN1262
14.2 Proper Shipping Name	OCTANES
Description	UN1262, OCTANES (ISOCTANE), 3, II, (-7°C C.C.), MARINE POLLUTANT
14.3 Hazard Class	3
14.4 Packing Group	II
14.5 Marine Pollutant	This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO
Environmental hazard	Yes
14.6 Special Provisions	None
EmS-No.	F-E, S-E
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available

RID

14.1 UN-No. UN1262
 14.2 Proper Shipping Name OCTANES
 Description UN1262, OCTANES, 3, II, ENVIRONMENTALLY HAZARDOUS
 14.3 Hazard Class 3
 14.4 Packing Group II
 14.5 Environmental hazard Yes
 14.6 Special Provisions None
 Classification code F1

ADR

14.1 UN-No. UN1262
 14.2 Proper Shipping Name OCTANES
 Description UN1262, OCTANES, 3, II, ENVIRONMENTALLY HAZARDOUS
 14.3 Hazard Class 3
 14.4 Packing Group II
 14.5 Environmental hazard Yes
 14.6 Special Provisions None
 Classification code F1
 Tunnel restriction code (D/E)

IATA

14.1 UN-No. UN1262
 14.2 Proper Shipping Name OCTANES
 Description UN1262, OCTANES, 3, II
 14.3 Hazard Class 3
 14.4 Packing Group II
 14.5 Environmental hazard Yes
 14.6 Special Provisions None

ERG Code 3H

Section 14: TRANSPORT INFORMATION
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IMDG/IMO

14.1 UN-No. UN1262
 14.2 Proper Shipping Name OCTANES
 Description UN1262, OCTANES (ISOOCTANE), 3, II, (-7°C C.C.), MARINE POLLUTANT
 14.3 Hazard Class 3
 14.4 Packing Group II
 14.5 Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO
 Environmental hazard Yes
 14.6 Special Provisions None
 EmS-No. F-E, S-E
 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code No information available

RID

14.1 UN-No. UN1262
 14.2 Proper Shipping Name OCTANES
 Description UN1262, OCTANES, 3, II, ENVIRONMENTALLY HAZARDOUS

14.3 Hazard Class 3
 14.4 Packing Group II
 14.5 Environmental hazard Yes
 14.6 Special Provisions None
 Classification code F1

ADR

14.1 UN-No. UN1262
 14.2 Proper Shipping Name OCTANES
 Description UN1262, OCTANES, 3, II, ENVIRONMENTALLY HAZARDOUS
 14.3 Hazard Class 3
 14.4 Packing Group II
 14.5 Environmental hazard Yes
 14.6 Special Provisions None
 Classification code F1
 Tunnel restriction code (D/E)

IATA

14.1 UN-No. UN1262
 14.2 Proper Shipping Name OCTANES
 Description UN1262, OCTANES, 3, II
 14.3 Hazard Class 3
 14.4 Packing Group II
 14.5 Environmental hazard Yes
 14.6 Special Provisions None

ERG Code 3H

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number	Title
Isooctane 540-84-1	RG 84	-

Water hazard class (WGK) hazardous to water (WGK 2)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV). This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

Persistent Organic Pollutants

Not applicable.

Dangerous substance category per Seveso Directive (2012/18/EU)

P5a - FLAMMABLE LIQUIDS

P5b - FLAMMABLE LIQUIDS

P5c - FLAMMABLE LIQUIDS

E1 - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable.

International Inventories

TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

Legend**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances**15.2. Chemical safety assessment**

No information available.

Section 16: OTHER INFORMATION**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under sections 2 and 3**

H315 - Causes skin irritation

H225 - Highly flammable liquid and vapor

H336 - May cause drowsiness or dizziness

H304 - May be fatal if swallowed and enters airways

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorization:

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	-	Skin designation

Key literature references and sources for data

www.ChemADVISOR.com/

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This safety data sheet complies with the requirements of: Regulation (EC) No. 1907/2006.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



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End of Safety Data Sheet