

SAFETY DATA SHEET

1. Identification

Product identifier: ACRIFIX® 1R 0192

Other means of identification

Recommended use: For use in industrial installations or professional treatment only. polymerising adhesive for PLEXIGLAS®

Recommended restrictions: Product not intended for consumers Applications where liquid monomer is intended to come into contact with skin or nails.

Manufacturer/Importer/Distributor Information

Company Name : Röhm GmbH
Product Stewardship
Deutsche-Telekom-Allee 9
64295 Darmstadt

Telephone : +49 6151 863 7542

E-mail : sds-info@roehm.com

Manufacturer

Emergency telephone number:

24-Hour Health : +49 6241 402 5280 (24h)
Emergency

2. Hazard(s) identification

According to Hazardous Products Regulations

Physical Hazards

Flammable liquids Category 2

Health Hazards

|| Acute toxicity (Inhalation - vapor) Category 5
Skin Corrosion/Irritation Category 2
Skin sensitizer Category 1
Specific Target Organ Toxicity - Category 3¹
Single Exposure

Target Organs

1. Respiratory tract irritation.

Environmental Hazards

Acute hazards to the aquatic environment Category 3

Label Elements

Hazard Symbol:

**Signal Word:**

Danger

Hazard Statement:

Highly flammable liquid and vapor.
May be harmful if inhaled.
Causes skin irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
Harmful to aquatic life.

Precautionary Statements**Prevention:**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting/...] equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see on this label). If skin irritation or rash occurs: Get medical advice/attention. Rinse skin with water [or shower]. Take off contaminated clothing and wash it before reuse. In case of fire: Use foam to extinguish.

Storage:

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

Disposal:

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards:

Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions. Take precautionary measures against static discharges.

3. Composition/information on ingredients

Mixtures

Solution of an acrylic polymer in methyl methacrylate

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
methyl methacrylate	methyl 2-methylprop-2-enoate	80-62-6	60 - <100%
Bis(isopropyl) thioperoxydicarbonate		105-65-7	0,1 - <1%
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide		75980-60-8	0,1 - <1%
Pentaerythritol tetra(mercaptoacetate)	3-[(2-sulfanylacetyl)oxy]-2,2-bis[[(2-sulfanylacetyl)oxy]methyl]propyl 2-sulfanylacetate	10193-99-4	0,01 - <0,1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of necessary first-aid measures

General information:	First aider needs to protect himself. Take off all contaminated clothing immediately. Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product or by inhalation of its vapours.
Inhalation:	Move subject to fresh air and keep him calm. See a physician. If respiratory problems, artificial respiration/oxygen.
Skin Contact:	Wash off immediately with soap and water. If skin irritation occurs consult a physician. Take off all contaminated clothing immediately. Wash clothing before reuse.
Eye contact:	Keeping the eyelids apart flush thoroughly with water immediately. If irritation persists, contact a physician.
Ingestion:	Do not induce vomiting and seek medical advice immediately. Never give anything by mouth to an unconscious person.
Personal Protection for First-aid Responders:	Wear self-contained breathing apparatus.

Most important symptoms/effects, acute and delayed

Symptoms: Headache. confusion Causes skin and eye irritation. Skin sensitizer

Hazards: May be harmful if inhaled.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards: Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: foam Dry chemical.

Unsuitable extinguishing media: High volume water jet

Specific hazards arising from the chemical: May be released in case of fire: carbon monoxide, carbon dioxide, sulphur oxides, organic products of decomposition.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Keep away from sources of ignition - No smoking. Take action to prevent static discharges. In the event of fire, cool the endangered containers with water. When heated above the flash point and/or during spraying (atomizing), ignitable mixtures may form in air. Use only explosion-proof equipment.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Evacuate personnel to safe areas. Assure sufficient ventilation. Use breathing apparatus if exposed to vapours/dust/mist/aerosol. Avoid contact with eyes, skin, and clothing. Use personal protective clothing. Keep away sources of ignition. Do not breathe vapours or spray mist. Wash hands thoroughly with soap and water after handling.

For emergency responders: Observe regulations on prevention of water pollution (check, dam up, cover up).

Methods and material for containment and cleaning up: Larger quantities: Remove mechanically (by pumping). Use explosion-proof equipment! Smaller quantities and/or residues: Contain with absorbent material (e.g. sand, diatomaceous earth, acid absorbent, universal absorbent or sawdust). Dispose of in accordance with regulations.

Environmental Precautions: Prevent product from getting into drains/surface water/groundwater. If the product contaminates rivers and lakes or drains inform respective authorities.

7. Handling and storage

Precautions for safe handling:	Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment. Keep container tightly closed. Provide sufficient ventilation and exhaust at the workplace. Do not inhale exhaust fumes, vapors, sprays or aerosols. No eating, drinking, smoking, or snuffing tobacco at work. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Follow all SDS/label precautions even after container is emptied because it may retain product residues. Keep locked up. The product should only be handled by trained personnel. Keep away from sources of ignition - No smoking. Take action to prevent static discharges. In the event of fire, cool the endangered containers with water. When heated above the flash point and/or during spraying (atomizing), ignitable mixtures may form in air. Use only explosion-proof equipment. Refer to section 15 for specific national regulation.
Conditions for safe storage, including any incompatibilities:	Keep only in the original container at a temperature not exceeding 30 °C. Protect from the action of light. Fill the container by approximately 90 % only as oxygen (air) is required for stabilisation. With large storage containers make sure the oxygen (air) supply is sufficient to ensure stability. Can polymerize with intense heat release. Keep locked up or in an area accessible only to qualified or authorised persons. Observe prohibition against storing together! see also section 10.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
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Observe national threshold limit values.

Biological Limit Values

No biological exposure limits noted for the ingredient(s).

Appropriate Engineering Controls

For monitoring procedures refer for instance to "Empfohlene Analysenverfahren für Arbeitsplatzmessungen", Schriftenreihe der Bundesanstalt für Arbeitsschutz and "NIOSH Manual of Analytical Methods", National Institute for Occupational Safety and Health

Individual protection measures, such as personal protective equipment

General information: No data available.

Eye/face protection: Tightly fitting safety goggles Ensure that eyewash stations and safety showers are close to the workstation location.

Skin Protection

Hand Protection:	Material: butyl rubber gloves (minimal thickness 0.3 mm) Break-through time: 60 min Guideline: EN 374 Additional Information: Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time., As the product is a mixture of several substances, the durability of the glove materials cannot be calculated in advance and has to be tested before use., Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Additional Information: Suitable as spray protection., neoprene gloves
Other:	On handling of larger quantities: face mask, chemical-resistant boots and apron
Respiratory Protection:	Breathing apparatus in case of high concentrations
Hygiene measures:	Take off all contaminated clothing immediately. Store work clothing separately. Follow the usual good standards of occupational hygiene. Clean skin thoroughly after work; apply skin cream. Take off contaminated clothing and wash it before reuse.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	viscous
Color:	Violet
Odor:	ester-like
Odor Threshold:	No data available.
pH:	Not applicable
Freezing point:	No data available.
Boiling Point:	approx. 100 °C (1.013 hPa)
Flash Point:	8,5 °C (DIN 51 755)
Evaporation Rate:	No data available.
Flammability (solid, gas):	Not applicable
Flammability Limit - Upper (%):	12,5 %(V) (methyl methacrylate)
Flammability Limit - Lower (%):	2,1 %(V) at 10,5°C / 33,8°F (methyl methacrylate)
Vapor pressure:	approx. 40 hPa (20 °C)
Vapor density (air=1):	> 1 20 °C
Density:	approx. 1,02 g/cm ³ (20 °C)
Relative density:	No data available.
Solubility(ies)	
Solubility in Water:	approx. 16 g/l (20 °C)
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	1,38 (methyl methacrylate)
Autoignition Temperature:	435 °C (DIN 51794) (methyl methacrylate) Auto Ignition Temperature The substance or mixture is not classified as pyrophoric.
Decomposition Temperature:	This material is considered stable under specified

Kinematic viscosity:	conditions of storage, shipment and/or use. No data available.
Dynamic viscosity:	1.600 - 2.000 mPa.s (20 °C, Brookfield)
Explosive properties:	Vapours may form explosive mixtures with air
Oxidizing properties:	No data available.
Other information	
Dust Explosion Limit, Upper:	(methyl methacrylate)
Dust Explosion Limit, Lower:	at 10,5°C / 33,8°F (methyl methacrylate)
Self Ignition Temperature:	435 °C (methyl methacrylate) Auto Ignition Temperature The substance or mixture is not classified as pyrophoric.

10. Stability and reactivity

Reactivity:	see section "Possibility of hazardous reactions"
Chemical Stability:	This material is considered stable under specified conditions of storage, shipment and/or use.
Possibility of hazardous reactions:	Polymerization with heat evolution may occur in the presence of radical forming substances (e.g. peroxides), reducing substances, and/or heavy metal ions. The same applies to the effect of light or UV-light respectively.
Conditions to avoid:	Ultraviolet light. Solar radiation, heat, heat exposure, spark formation.
Incompatible Materials:	Peroxides, amines, sulfur compounds, heavy metal ions, alkalis, reducing agents and oxidizing agents. Mineral Acid Free radical initiators.
Hazardous Decomposition Products:	None when used as directed.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: Not classified for acute toxicity based on available data.

Dermal

Product: Not classified for acute toxicity based on available data.

Inhalation

Product: Acute toxicity estimate: > 40 mg/l

Repeated dose toxicity

Product: No data available.

Specified substance(s):

methyl methacrylate

NOAEL (Rat, Inhalativ, 2 years): 25 ppm Findings: Damage to mucous membranes in the nose at 400 ppm

NOAEL (Rat, Oral, 2 years): 2000 ppm Findings: no toxic effects

Not classified

Bis(isopropyl)

thioperoxydicarbonate

diphenyl(2,4,6-

trimethylbenzoyl)phosphi

ne oxide

NOAEL (Rat(male and female), Oral): 50 mg/kg LOAEL (Rat(male and female), Oral): 250 mg/kg

Skin Corrosion/Irritation

Product

No data available.

Specified substance(s):

methyl methacrylate

Draize (Rabbit): Not irritating

Irritant Based on experience in human subjects

Bis(isopropyl)

thioperoxydicarbonate

OECD 404 (Guinea Pig): Irritating.

diphenyl(2,4,6-

trimethylbenzoyl)phosp

hine oxide

Draize Test (Rabbit): Not irritating

Pentaerythritol

tetra(mercaptoacetate)

OECD 404 Not irritating

Serious Eye Damage/Eye Irritation

Product:

No data available.

Specified substance(s):

methyl methacrylate

(Rabbit): Not irritating

Bis(isopropyl)

thioperoxydicarbonate

Not Classified

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

Draize Test (Rabbit): Not irritating

Pentaerythritol tetra(mercaptoacetate)

OECD 405 Not irritating

Respiratory or Skin Sensitization

Product:

No data available.

Specified substance(s):

methyl methacrylate

Local Lymph Node Assay (LLNA), LLNA (OECD 429) (Mouse): Sensitising (man)Skin sensitizer In humans various types of allergic reactions have been observed (symptoms: headache, eye irritations, skin affections). Not classified for respiratory sensitization

Bis(isopropyl) thioperoxydicarbonate

, OECD 406 (Guinea Pig)May cause sensitization by skin contact.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

, Local Lymph Node Assay (LLNA) (Mouse)Skin sensitizer

Pentaerythritol tetra(mercaptoacetate)

, OECD Test Guideline 429 (Local Lymph Node Assay) (Mouse)Strong skin sensitizer.

Carcinogenicity

Product:

No data available.

Specified substance(s):

methyl methacrylate

Not classified

Bis(isopropyl)

Not classified

thioperoxydicarbonate

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

No evidence that cancer may be caused.

Pentaerythritol

Not classified

tetra(mercaptoacetate)

Germ Cell Mutagenicity

In vitro

Product: No data available.

Specified substance(s):

methyl methacrylate	Not classified
Bis(isopropyl)	(OECD 471)negative
thioperoxydicarbonate	
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Not classified
Pentaerythritol	Not classified
tetra(mercaptoacetate)	

In vivo

Product: No data available.

Specified substance(s):

methyl methacrylate	Not classified
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Not classified
Pentaerythritol	Not classified
tetra(mercaptoacetate)	

Reproductive toxicity

Product: No data available.

Specified substance(s):

methyl methacrylate	Not classified
Bis(isopropyl)	Not classified
thioperoxydicarbonate	
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Suspected of damaging fertility.
Pentaerythritol	Not classified
tetra(mercaptoacetate)	

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s):

methyl methacrylate	Inhalation - vapor: Respiratory Tract - Category 3 with respiratory tract irritation.
Bis(isopropyl)	Not classified
thioperoxydicarbonate	
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Not classified Based on the information available, organ-specific toxicity is not to be expected after one single exposure.
Pentaerythritol	Not classified
tetra(mercaptoacetate)	

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Specified substance(s):

methyl methacrylate	Not classified
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Bis(isopropyl) thioperoxydicarbonate	Not classified
diphenyl(2,4,6- trimethylbenzoyl)phosphi ne oxide	Not classified
Pentaerythritol tetra(mercaptoacetate)	Not classified

Target Organs

Specific Target Organ Toxicity - Single Exposure: Respiratory tract irritation.

Aspiration Hazard

Product: Not classified

Other effects:

Carefully avoid contact with skin and eyes as well as inhalation of product vapours. No tests were performed with this mixture. The properties of this product which are hazardous to health have been calculated as per regulation (EC) No. 1272/2008. See section 2 "Hazards Identification".

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

methyl methacrylate LC 50 (96 h): > 100 mg/l Expert judgement

Bis(isopropyl)
thioperoxydicarbonate No toxicity at the limit of solubility

diphenyl(2,4,6-
trimethylbenzoyl)phosphi
ne oxide LC 50 (Oryzias latipes, 48 h): 6,53 mg/l

Pentaerythritol
tetra(mercaptoacetate) LC 50 (Oncorhynchus mykiss (rainbow trout), 96 h): 0,034 mg/l

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

methyl methacrylate EC 50 (Daphnia magna (Water flea), 48 h): 69 mg/l

Bis(isopropyl)
thioperoxydicarbonate No toxicity at the limit of solubility

diphenyl(2,4,6-
trimethylbenzoyl)phosphi
ne oxide EC 50 (Daphnia magna (Water flea), 48 h): 3,53 mg/l

Pentaerythritol
tetra(mercaptoacetate)

EC 50 (Daphnia magna (Water flea), 48 h): > 0,35 mg/l

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

methyl methacrylate NOEC (Danio rerio (zebra fish), 14 d): 9,4 mg/l

Bis(isopropyl)
thioperoxydicarbonate No toxicity at the limit of solubility

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

methyl methacrylate NOEC (Daphnia magna (Water flea), 21 d): 37 mg/l

Bis(isopropyl)
thioperoxydicarbonate No toxicity at the limit of solubility

Toxicity to Aquatic Plants

Product: No data available.

Specified substance(s):

methyl methacrylate EC 50 (Selenastrum capricornutum (green algae), 72 h): > 110 mg/l
NOEC (Selenastrum capricornutum (green algae), 72 h): > 110 mg/l

Bis(isopropyl)
thioperoxydicarbonate No toxicity at the limit of solubility

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide EC 50 (Pseudokirchneriella subcapitata (green algae), 72 h): > 2,01 mg/l

Pentaerythritol
tetra(mercaptoacetate) EC 50 (Desmodesmus subspicatus (green algae), 72 h): > 0,12 mg/l

Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s):

methyl methacrylate (14 d, OECD 301 C): 94 % easily biodegradable Readily biodegradable, according to appropriate OECD test.

Pentaerythritol
tetra(mercaptoacetate) Inherently biodegradable

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):

methyl methacrylate Due to the distribution coefficient n-octanol/water, accumulation in organisms is possible.

diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide Cyprinus carpio, Bioconcentration Factor (BCF): 23 - 55 Does not significantly accumulate in organisms.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: 1,38 (methyl methacrylate)

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

methyl methacrylate Binding to the solid soil phase, sediment or clarification sludge is not expected. The substance evaporates gradually into the atmosphere from the surface of the water. If the substance does get into the environment, it tends to remain in the compartment it was discharged into.

Bis(isopropyl) No data available.

thioperoxydicarbonate Substance does not evaporate from water surface into the atmosphere.
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide Binding to the solid soil phase, sediment or clarification sludge is not expected.

Pentaerythritol No data available.

tetra(mercaptoacetate)

Other adverse effects: Prevent substance from entering soil, natural bodies of water and sewer systems. The properties of this product which are characteristics posing a threat to the environment have been calculated as per regulation (EC) No. 1272/2008. See section 2 "Hazards Identification". No ecotoxicological data is available for this product.

13. Disposal considerations

General information: Dispose of waste and residues in accordance with local authority requirements.

Disposal methods: No data available.

Contaminated Packaging: Contaminated packaging should ideally be emptied; it can then be recycled after having been decontaminated. Packaging that cannot be cleaned should be disposed of professionally. Uncontaminated packaging may be taken for recycling.

14. Transport information

International Regulations

IATA-DGR

UN/ID No. : UN 1133
Proper shipping name : Adhesives STABILIZED

Class : 3
Packing group : II
Labels : 3
Packing instruction (cargo aircraft) : 364
Packing instruction (passenger aircraft) : 353

IMDG-Code

UN number : UN 1133
Proper shipping name : ADHESIVES STABILIZED

Class : 3
Packing group : II
Labels : 3
EmS Code : F-E, S-D
Marine pollutant : no

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

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory information

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

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

Issue Date: 27.03.2020

Version #: 2.1

Further Information: The product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is exceeded, the product may polymerize with heat evolution.

Revision Information: Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Disclaimer:

This information and all further technical advice is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.