

ACRIFIX® 192 - Material Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

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Material Name: ACRIFIX® 192

Recommended Uses: Adhesive for plastics. Polymerising adhesive for PLEXIGLAS®

2. HAZARDS IDENTIFICATION

ACRIFIX 192 IS HAZARDOUS SUBSTANCE ACCORDING TO NOHSC "SAFE WORK AUSTRALIA" CRITERIA

Classified as hazardous according to the criteria of NOHSC and according to the Australian Dangerous Goods Code.

Highly flammable.
Irritating to respiratory system and skin.
May cause sensitisation by skin contact.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Solution of an acrylic polymer in methyl methacrylate

Hazardous Ingredients

Component	CAS Number	Hazard symbol(s) / R-phrases	Content
1. methyl methacrylate	80-62-6	F, Xi R11-37/38-43	60,0 - 100,0 %
2. diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	Xn, N R51/53-62	0,1 - 1,0 %

4. FIRST AID MEASURES

General Information: Remove soiled, soaked 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: Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

After inhalation Move subject to fresh air and keep him calm. See a physician.

After contact with eyes Keeping the eyelids apart flush thoroughly with water immediately. If irritation persists, contact a physician.

After contact with skin Wash off immediately with soap and water. If skin irritation occurs consult a physician.

After Ingestion Do not induce vomiting. Contact a doctor immediately.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media	Foam, dry chemical, carbon dioxide
Unsuitable extinguishing media for safety reasons	Water
Special protective equipment for fire fighting	Wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Observe all relevant local and international regulations.

Precautionary measures related to people

Take care for adequate ventilation. Use personal protective clothing. Keep away sources of ignition. Use breathing apparatus if exposed to vapours/dust/mist/aerosol.

Environmental protective measures

Prevent product from getting into drains/surface water/groundwater.

Methods of cleaning / adsorption

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.

7. HANDLING AND STORAGE

Instructions on safe handling

Keep container tightly closed. Ensure the area is well ventilated.

Information on fire and explosion protection

Keep away from sources of ignition --- No smoking. Take precautionary measures against 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 explosion-proof equipment only.

Storage

Requirements for storage areas and containers

Keep only in the original container at a temperature not exceeding 30 °C. Protect from 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure controls

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

Personal protective equipment

General protective measures

Do not inhale vapours. Avoid contact with eyes and skin.

Hygiene measures

Remove soiled or soaked clothing immediately. Store work clothing separately. Follow the usual good standards of occupational hygiene. Clean skin thoroughly after work; apply skin cream.

Respiratory protection

Breathing apparatus in case of high concentrations and in short term: filter appliance (filter A). None required if airborne concentrations are maintained below the exposure limits

Exposure Limits

Component	Time Weighted Average
1	100 (ppm)

Hand protection

Butyl rubber gloves (0,7 mm), Breakthrough time approx. 60 min (EN 374)

In practice, due to variable exposure conditions, this information can only be an aid to orientation for the selection of a suitable chemical protection glove. In particular, this information does not substitute suitability tests by the end user.

Splash protection

Neoprene gloves

General information

Gloves should be replaced regularly, especially after extended contact with the product. For each work-place a suitable glove type has to be selected.

Eye protection

Tightly fitting goggles

Body protection

On handling of larger quantities: face mask, chemical-resistant boots and apron

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: viscous
Colour: slightly violet
Odour: ester-like

Data relevant to safety

Changes in physical state

Melting temperature Not determined
Boiling Temperature approx. 100 °C at 1.013 hPa
Flash point 10 °C (DIN 51755 / Abel Pensky Closed Cup) (methyl methacrylate)
Ignition temperature 430 °C (DIN 51794) (methyl methacrylate)
Auto ignition Not determined
Lower explosion limit 2,1 %(V) at 10,5°C / 33,8°F (methyl methacrylate)
Upper explosion limit 12,5 %(V) (methyl methacrylate)
Vapour pressure approx. 40 hPa at 20 °C
Density approx. 1,02 g/cm³ at 20 °C
Relative vapour density (related to air) > 1 at 20 °C
Solubility in water approx. 16 g/l at 20 °C
Fat solubility Not determined
pH-value Not applicable
n-Octanol/water partition coefficient Not determined
Viscosity (dynamic) 1.600 - 2.000 mPa.s at 20 °C (Brookfield)
Further information None

10. STABILITY AND REACTIVITY

Thermal decomposition No decomposition when used as directed.
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.
Hazardous decomposition None when used as directed.

11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity Practically non-toxic if swallowed LD₅₀ rat, OECD 401 > 5.000 mg/kg
Related to substance: methyl methacrylate
Acute Inhalational Toxicity Low toxicity by inhalation LC₅₀ rat, 4 h 29,8 mg/l
Related to substance: methyl methacrylate
Acute Dermal Toxicity Practically non-toxic in contact with skin LD₅₀ rabbit > 5.000 mg/kg
Related to substance: methyl methacrylate
Irritant Effect on the Skin Contact with skin may cause irritations.
Related to substance: product
Irritant Effect on the Eyes Contact with the eyes may cause irritation. Related to substance: product
Sensitisation In sensitisation tests on guinea pigs with and without adjuvant, both positive and negative results were found. In humans various types of allergic reactions have been observed (symptoms: headache, eye irritations, skin affections).
Related to substance: methyl methacrylate
Toxicity on Repeated Administration Dose ad which no adverse effects were observed (NOAEL). At higher doses adverse effects were observed. rat, inhalation, 2 a, 0, 25, 100, 400 ppm **NOAEL** 25 ppm
Findings: Damage to mucous membranes in the nose at 400 ppm
Related to substance: methyl methacrylate

	Rat, in drinking water, 2 a, 0, 6/7, 60/70, 2000 ppm NOAEL 2000 ppm Findings: no toxic effects
Mutagenicity	Related to substance: methyl methacrylate Positive as well as negative results in in vitro mutagenicity/ genotoxicity tests. No experimental indication of genotoxicity in vivo available. In summary not mutagenic according to internationally accepted criteria.
Carcinogenicity	Related to substance: methyl methacrylate Non-carcinogenic in inhalation and feeding studies carried out on rats, mice and dogs.
Reprotoxicity / teratogenicity	Related to substance: methyl methacrylate No indications of toxic effects were observed in reproduction studies in animals.
General information	Related to substance: methyl methacrylate There are no toxicological data available for the product as such. Avoid contact with the skin and eyes and inhalation of the product vapours.

12. ECOLOGICAL INFORMATION

Information on elimination (persistence and degradability)

Biodegradability	Readily degradable, OECD 301 C, 14 d 94 % Related to substance: methyl methacrylate
Ecotoxicological effect	
Fish toxicity	LC50 Oncorhynchus mykiss, rainbow trout, OECD 203, flow through, GLP, 96 h > 79 mg/l Related to substance: methyl methacrylate
Daphnia toxicity	EC50 Daphnia magna, OECD 202, flow through, 48 h 69 mg/l Related to substance: methyl methacrylate NOEC Daphnia magna, OECD 202 part 2, flow through, 21 d 37 mg/l Related to substance: methyl methacrylate
Algae toxicity	EC3 Scenedesmus quadricauda, DIN 38412 section 9, 8 d 37 mg/l Related to substance: methyl methacrylate
Bacteria toxicity	EC0 Pseudomonas putida 100 mg/l Related to substance: methyl methacrylate
General information	Do not allow to enter soil, waterways or waste water

13. DISPOSAL CONSIDERATIONS

Product	Waste is hazardous. It must be disposed of in accordance with the regulations after consultation of the competent local authorities and the disposal company in a suitable and licensed facility.
Uncleaned packaging	Contaminated packaging should be emptied optimally and after appropriate professional cleansing may be taken for reuse. Packaging that cannot be cleaned should be disposed of professionally. Uncontaminated packaging may be taken for recycling.
Code of waste EW	07 02 08 waste from the manufacture, formulation, supply and use (MFSU) of plastics, synthetic rubber and man-made fiber - other still bottoms and reaction residues Always check the given waste codes according to the actual conditions of manufacturing, formulation or use in your facilities.

14. TRANSPORT INFORMATION

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th Edition).

Proper Shipping Name: ADHESIVES (Contains Methyl Methacrylate)

UN No: 1133	D.G.Class: 3	Packaging Group: II
HAZCHEM: 3[Y]E	Sub. Risk: None allocated	SUSDP: None allocated
G.T.EPG: None allocated	Spec.EPG: None allocated	CAS No.: None allocated

Air transport ICAO/IATA

UN number 1133
Class 3
Packaging group II
Proper Shipping Name: ADHESIVES

15. REGULATORY INFORMATION

Labeling in accordance with NOHSC: 2012 (1994)

Hazard symbol(s)

F Highly flammable
Xi Irritant

R-phrases(s)

11 Highly flammable.
37/38 Irritating to respiratory system and skin.
43 May cause sensitisation by skin contact.

S-phrases(s)

9 Keep container in a well ventilated place
16 Keep away from sources of ignition --- No smoking.
23 Do not breathe vapour
24 Avoid contact with skin.
37 Wear suitable gloves.

Status of Registration

EINECS (EU) listed or exempted
TSCA (USA) listed or exempted
DSL (CDN) listed or exempted
AICS (AUS) listed or exempted
METI (J) listed or exempted

Occupational restrictions

Not for juveniles.
Not for pregnant woman and nursing mothers (EC Directive 92/85/EEC).

16. OTHER INFORMATION

Miscellaneous 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.

R-phrases of relevance from Section 3

11 Highly flammable.
37/38 Irritating to respiratory system and skin.
43 May cause sensitisation by skin contact.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
62 Possible risk of impaired fertility.

References

relevant manuals and publications
own examinations
own toxicological and ecotoxicological studies
toxicological and ecotoxicological studies of other manufacturers
SIAR
OECD-SIDS
RTK public files

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