

Safety data sheet

Page: 1/13

BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 09.06.2017

Version: 6.0

Product: **Irgafos® 168**

(ID no. 30497213/SDS_GEN_GB/EN)

Date of print 12.06.2017

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Irgafos® 168

Chemical name: tris(2,4-di-tert-butylphenyl) phosphite

CAS Number: 31570-04-4

REACH registration number: 01-2119491176-33-0001, 01-2119491176-33-0000

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

Relevant identified uses: antioxidant

Not recommended use: This material is not intended for use in products for which prolonged contact with mucous membranes, body fluids or abraded skin, or implantation within the human body, is specifically intended, unless the finished product has been tested in accordance with nationally and internationally applicable safety testing requirements. Because of the wide range of such potential uses, we are not able to recommend this material as safe and effective for such uses and assume no liability for such uses.

1.3. Details of the supplier of the safety data sheet

Company:BASF SE
67056 Ludwigshafen
GERMANYContact address:BASF plc
PO Box 4, Earl Road, Cheadle Hulme,
Cheadle, Cheshire
SK8 6QG, UNITED KINGDOM

Telephone: +44 161 485-6222

E-mail address: product-safety-north@basf.com

1.4. Emergency telephone number

BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 09.06.2017

Version: 6.0

Product: **Irgafos® 168**

(ID no. 30497213/SDS_GEN_GB/EN)

Date of print 12.06.2017

International emergency number:

Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

No need for classification according to GHS criteria for this product.

2.2. Label elements

Globally Harmonized System, EU (GHS)

The product does not require a hazard warning label in accordance with GHS criteria.

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

The product is under certain conditions capable of dust explosion.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Chemical nature

Tris(2,4-ditert-butylphenyl) phosphite

CAS Number: 31570-04-4

EC-Number: 250-709-6

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:
Wash thoroughly with soap and water.

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:
Rinse mouth and then drink plenty of water.

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

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Further important symptoms and effects are so far not known.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
dry powder, foam

Unsuitable extinguishing media for safety reasons:
carbon dioxide

Additional information:
Avoid whirling up the material/product because of the danger of dust explosion.

5.2. Special hazards arising from the substance or mixture

harmful vapours

Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

5.3. Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Use personal protective clothing.

6.2. Environmental precautions

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up

For small amounts: Pick up with suitable appliance and dispose of.

For large amounts: Contain with dust binding material and dispose of.

Avoid raising dust.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Breathing must be protected when large quantities are decanted without local exhaust ventilation.

Protection against fire and explosion:

Avoid dust formation. Take precautionary measures against static discharges.

Dust explosion class: Dust explosion class 2 (Kst-value 200 up to 300 bar m s-1).

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

No occupational exposure limits known.

8.2. Exposure controls

Personal protective equipment

Respiratory protection:

Suitable respiratory protection for lower concentrations or short-term effect: Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

Hand protection:

Chemical resistant protective gloves (EN 374)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended. Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

For information regarding environmental exposure controls, see Section 6.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	crystalline, powder	
Colour:	white	
Odour:	odourless	
Odour threshold:	No applicable information available.	
pH value:	6 (1 %(m), 20 - 25 °C) (as suspension)	
Melting point:	183 - 186 °C	
Boiling point:	not applicable	
Flash point:	> 150 °C	(DIN 51584)
Evaporation rate:		
Flammability:	The product is a non-volatile solid. not highly flammable	(Directive 84/449/EEC, A.10)
Lower explosion limit:	For solids not relevant for classification and labelling.	

BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 09.06.2017

Version: 6.0

Product: **Irgafos® 168**

(ID no. 30497213/SDS_GEN_GB/EN)

Date of print 12.06.2017

Upper explosion limit:	For solids not relevant for classification and labelling.	
Ignition temperature:	400 °C	
Vapour pressure:	< 0.0000085 hPa	(measured)
	(20 °C)	
Density:	1.03 g/cm ³	
	(20 °C)	
Solubility in water:	< 0.005 mg/l	(Directive 92/69/EEC, A.6)
	(20 °C)	
Partitioning coefficient n-octanol/water (log Kow):	> 6	(calculated)
	(20 - 25 °C)	
Thermal decomposition:	> 350 °C	
Viscosity, dynamic:	not determined	
Explosion hazard:	not explosive	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	

9.2. Other information

Self heating ability: It is not a substance capable of spontaneous heating.

Minimum ignition energy:

No data available.

Bulk density: approx. 360 kg/m³

Hygroscopy: not applicable

Molar mass: 646.93 g/mol

Other Information:

If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 10: Stability and Reactivity

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:	No corrosive effect on metal.	
Reactions with water/air:	Reaction with:	water
	Flammable gases:	no
	Toxic gases:	no
	Corrosive gases:	no
	Smoke or fog:	no
	Peroxides:	no

BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 09.06.2017

Version: 6.0

Product: **Irgafos® 168**

(ID no. 30497213/SDS_GEN_GB/EN)

Date of print 12.06.2017

	Reaction with:	air
	Flammable gases:	no
	Toxic gases:	no
	Corrosive gases:	no
	Smoke or fog:	no
	Peroxides:	no
Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.
	Oven temperature:	220 °C
	Specific decomposition gas volume:	< 5 l/kg

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

Dust explosion hazard.

10.4. Conditions to avoid

Avoid dust formation. Avoid deposition of dust. Avoid all sources of ignition: heat, sparks, open flame. Avoid electro-static charge.

10.5. Incompatible materials

Substances to avoid:
strong oxidizing agents, strong acids, strong bases

10.6. Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Experimental/calculated data:
LD50 rat (oral): > 2,000 mg/kg

LD50 rat (dermal): > 2,000 mg/kg (OECD Guideline 402)

Irritation

Experimental/calculated data:
Skin corrosion/irritation rabbit: non-irritant

Serious eye damage/irritation rabbit: non-irritant

Respiratory/Skin sensitization

Experimental/calculated data:
other guinea pig: Non-sensitizing.

Germ cell mutagenicity

Assessment of mutagenicity:
Based on the ingredients, there is no suspicion of a mutagenic effect.

Experimental/calculated data:

Ames-test
negative

Carcinogenicity

Assessment of carcinogenicity:
Based on the ingredients there is no suspicion of a carcinogenic effect in humans.

Reproductive toxicity

Assessment of reproduction toxicity:
The results of animal studies gave no indication of a fertility impairing effect.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
No adverse effects were observed after repeated exposure in animal studies.

Aspiration hazard

No aspiration hazard expected.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms.

Toxicity to fish:

LC50 (96 h) > 100 mg/l, Fish (OECD 203; ISO 7346; 92/69/EEC, C.1)

No effects at the highest test concentration. Tested above maximum solubility.

Aquatic invertebrates:

EC50 (24 h) 510 mg/l, Daphnia magna (OECD Guideline 202, part 1)

Aquatic plants:

EC50 (72 h) > 75.2 mg/l, Scenedesmus sp. (Guideline 92/69/EEC, C.3)

Tested above maximum solubility. No effects at the highest test concentration.

Microorganisms/Effect on activated sludge:

EC50 (3 h) > 100 mg/l, activated sludge (OECD Guideline 209)

12.2. Persistence and degradability**Assessment biodegradation and elimination (H₂O):**

The product is virtually insoluble in water and can thus be separated from water mechanically in suitable effluent treatment plants.

Elimination information:

(OECD 301B; ISO 9439; 92/69/EEC, C.4-C) Not readily biodegradable (by OECD criteria).

12.3. Bioaccumulative potential**Bioaccumulation potential:**

Based on a weight of evidence, the compound will not bioaccumulate.

12.4. Mobility in soil**Assessment transport between environmental compartments:**

Volatility: The substance will not evaporate into the atmosphere from the water surface.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

12.6. Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

12.7. Additional information

Other ecotoxicological advice:

Do not discharge product into the environment without control.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).

Contaminated packaging:

Uncontaminated packaging can be re-used.

Packs that cannot be cleaned should be disposed of in the same manner as the contents.

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable

UN proper shipping name: Not applicable
Transport hazard class(es): Not applicable
Packing group: Not applicable
Environmental hazards: Not applicable
Special precautions for user: None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

UN number: Not applicable
UN proper shipping name: Not applicable
Transport hazard class(es): Not applicable
Packing group: Not applicable
Environmental hazards: Not applicable
Special precautions for user: None known

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

UN number: Not applicable
UN proper shipping name: Not applicable
Transport hazard class(es): Not applicable
Packing group: Not applicable
Environmental hazards: Not applicable
Special precautions for user: None known

14.1. UN number

See corresponding entries for "UN number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

SECTION 15: Regulatory Information

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

Prohibitions, Restrictions and Authorizations

Annex XVII of Regulation (EC) No 1907/2006

Restrictions of Regulation (EC) No 1907/2006, Annex XVII, do not apply for the intended use(s) of the product given in this MSDS.

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).

15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 09.06.2017

Version: 6.0

Product: **Irgafos® 168**

(ID no. 30497213/SDS_GEN_GB/EN)

Date of print 12.06.2017

If you have any queries relating to this MSDS, its contents or any other product safety related questions, please write to the following e-mail address: product-safety-north@basf.com

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.