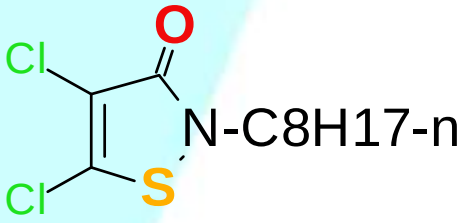
INTERCIDE™ DBF 9 DINCH

Product Description

The Intercide DBF range of products are based on the active ingredient 4,5-dichloro-2-n-octyl-isothiazolin-3-one (DCOIT) typically dispersed in a phthalates, although DINCH (Di-iso-nonyl-cyclohexane) offers a phthalate free alternative. The blends have been specifically developed to provide a high level of immediate and long term protection against attack by micro-organisms.

Typical Properties

Appearance:	Colourless to yellow liquid.
Density at 25°C g/ml:	0.98 approx.
DCOIT %:	9.00% typical.
Stability:	Liquid even at lower temperatures.
Stability in use:	Use at lowest process time & temperature.
	Avoid mercapto compounds.



The above do not constitute a specification

Applications

Extensive evaluation programmes carried out in our microbiology laboratories have shown DCOIT to be highly effective against a broad spectrum of micro-organisms, resistant to UV and leaching effects. Although DCOIT is used in a wide variety of applications this version based on the Di-iso-nonyl-cyclohexane (DINCH) carrier is used in PVC an related applications which are most suitable for use in a variety of outdoor applications based on calendaring and extrusion techniques. DCOIT also exhibits activity against a range of bacterial species.
Avoid pre-mixing with mixed metal stabilisers, add separately and disperse well to avoid any reducing agent impacting the biocide stability. For specialist advice and DCOIT compatible stabiliser options contact Valtris Specialty Chemicals.

Packing and Storage

Storage: The Intercide DBF family should be stored in dry conditions, preferably at room temperature. Once opened the container should be firmly closed after use. Full information on the safe handling is available on the Health and Safety Data Sheet.
Special conditions: During periods of cold temperature the product may winterise, leading to crystalisation or solidification. The product can be thawed prior to use using a suitable drum heater or water bath by heating gently overnight (max 50°C). This will not adversely affect the active ingredient but some mixing may be required.
Packing option: Plastic drums of 200kg net weight or 950kg IBC.
Shelf Life: minimum 24 months from manufacture (when stored as recommended).

Technical Performance

Intercide DBF 9 DINCH is designed to provide fungicidal protection and resistance to algal growth. Intercide DBF 9 DINCH has good resistance to UV and to water leaching, properties which render the product most suitable for use in a variety of outdoor applications based on calendaring, extrusion and spread coating production techniques. Addition levels recommended are in the range of 1.10% rising to 2.30% for the more demanding applications.
Intercide DBF 9 DINCH can be readily incorporated into the PVC formulation at the mixing or the Compounding stage.

It is recommended, that each formulation is checked by a qualified laboratory, to determine the optimum level required for protection. Valtris Specialty Chemicals has extensive in-house facilities to offer supporting microbiological services.

ISO 16869 Test - QUV exposure

% Incorporated product (% active in the foil)	Fungal growth* after x hrs exposure in QUV weathering tester			
	0	72	250	500
No Biocide	2	2	2	2
1.11% Intercide DBF 9 family (0.1% Active)	0	1	1	1

ISO 16869 Test - Water Leaching

% Incorporated product (% active in the foil)	Fungal growth* after x days of leaching (water at 19^{0}C)				
	0	21	35	56	70
No Biocide	2	2	2	2	2
1.11% Intercide DBF 9 family (0.1% Active)	0	0	1	1	1

*: 0 = No growth (Material is resistant to fungal attack)
1 = Initial growth, comparable to the rest of the agar surface (Material is partially protected or not susceptible to attack)
2 = Obvious growth and sporulation (Material is susceptible to fungal attack)

Examples of spoilage organisms

Bacteria	ppm	Moulds	ppm	Algae	ppm
Bacillus subtilis	2.5	*Alternaria alternata*	4	*Nostoc commune*	0.25
Escherichia coli	16	*Aspergillus niger*	2	*Stichococcus bacillaris*	0.10
Pseudomonas aeruginosa	13	*Chaetomium globosum*	7	*Scenedesmus vacuolatus*	0.50
Staphylococcus aureus	5	*Penicillium pinophilum*	2		
		Penicillium glaucum	*13*		

Akcros has conducted tests on various concentrations of DCOIT in a wide range of plasticisers. When using higher concentrated biocides it is essential to ensure good dispersion within the final product to ensure an even amount of biocide is available within or on the product being protected. The MIC data stated above is the minimum inhibitory concentration of DCOIT required to be effective against certain organisms in a simplified system. These do not reflect the dose requirements for a specific application.

Approvals and restrictions

Use of Intercide DBF 9 DINCH has the following approvals:

Oekotex 100 listed product

Use of Intercide DBF 9 DINCH has the following restrictions:

Any liquid product into which this product is incorporated containing greater than 1000ppm DCOIT (1.1% addition) must carry the GHS Warning pictogram (right) and H317 phrasing (May cause an allergic skin reaction).This is based on non-harmonised classification, although 250ppm is recommended. CLP 2nd ATP (EU H208) applies to this product above 100 ppm (25ppm suggested) for any mixtures from 1st June 2015. “Contains dichloro-n-octylisothiazolinone. May produce an allergic reaction.” This labelling does not apply to dry articles and no pictogram is required for EU H208. Labelling information will be updated when otherwise mandated.

This product has active ingredients notified under the Biocidal Products Regulation for several product types. This version is intended only for: PT 9 Fibre, leather, rubber and polymerised materials preservatives
BPR Treated article labelling applies from September 1st 2013 according to article 58.

For further information contact your nearest Valtris Specialty sales representative or authorised distributor.
Use biocides safely. Always read the label and product information before use.

Valtris Specialty Chemicals Ltd, Lankro Way, Eccles, Manchester, UK, M30 0LX.
Tel +441617851111
www.valtris.com

VALTRIS
SPECIALTY CHEMICALS