



NISSAN CHEMICAL INDUSTRIES, LTD.

“NISSAN Chlorinated Isocyanurates”

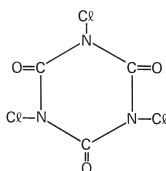
In the past, inorganic chlorine compounds including sodium hypochlorite, calcium hypochlorite, etc. have been widely used as non-shrinking agent for wool and sanitary disinfectants for swimming pool and septic tanks. In the U.S.A and European countries, Chlorinated isocyanurates have been used for a long time because inorganic compounds have a low stability and form water insoluble substances resulting in water contamination problems.

Nissan Chemical entered into domestic production of chlorinated isocyanurates in 1963 and since then have been working on market development and promotion of the product.

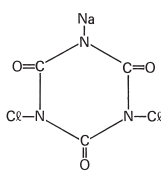
NISSAN Chlorinated isocyanurates have excellent characteristics and advantages compared with conventional inorganic chlorine compounds as indicated below.

1. High Available Chlorine content
 - NISSAN TCCA-90 : 90% (Trichloroisocyanuric acid)
 - NISSAN DCCNa-60 : 62% (Sodium dichloroisocyanurate)
 2. Low-hygroscopicity and extremely high chemical stability
 3. Contains no insoluble substances and so dissolves completely
 4. Very economical disinfectant because they dissolve at appropriate speed.
- The effect of these compounds vary greatly depending on the application method.

Chemical Structure



T C C A - 90



D C C Na - 60



Packing

Granular Type

- DCCNa-60 : 50 kgs in a fiber drum
- TCCA-90 : 50 kgs in a fiber drum
- TCCA-90 : 20 kgs in a plastic drum
- TCCA-90 : 7 kgs in a plastic drum

Powder Type

- TCCA-90 : 50 kgs in a fiber drum
- TCCA-90 : 20 kgs in a plastic drum
- TCCA-90 : 7 kgs in a plastic drum

NSF/ANSI-50 / 60

- **NSF-50 : Health Effects of Pool and Spa Chemicals**



Started from 30 Sep, 2015

Nissan products listed on 24 Aug, 2016

First authorized chemicals in the world

- **NSF-60 : Heals Effects of Chemicals on Drinking Water**



Nissan products listed on 22 Jul, 2016

Chemical	T.C.C.A. 90	D.C.C.Na 60
Chemical formula	$C_3N_3O_3(Cl)_3$ (Organic)	$C_3N_3O_3Cl_2Na$ (Organic)
Appearance	Solid	Solid
pH	Acidic	Acidic
Available chlorine	90%	62%
Residue in water	none	none
Stability of residual chlorine	Long	
Dosage/Day/8hours running at Pool capacity 300m ³	0.9kg	1.2kg
Storage stability	3years or more	3years or more

NSF International
789 N. Dixboro Road, Ann Arbor, MI 48105 USA

RECOGNIZES

Nissan Chemical Industries, Ltd.
Facility: Toyama, Japan

AS COMPLYING WITH NSF/ANSI 50, 60 AND ALL APPLICABLE REQUIREMENTS.
PRODUCTS APPEARING IN THE NSF OFFICIAL LISTING ARE
AUTHORIZED TO BEAR THE NSF MARK.

This certificate is the property of NSF International and must be returned upon request. This certificate remains valid as long as this client has products in Listing for the referenced standards. For the most current and complete Listing information, please access NSF's website (www.nsf.org).

August 24, 2016
Certificate# C0285925 - 02

Theresa Bellish
Theresa Bellish
General Manager, Water Systems

Basic Chemicals





NISSAN CHEMICAL INDUSTRIES, LTD.

Instruction of Pool Maintenance

Dosage

T.C.C.A. 90 3g / 1m³ water / day (turnover cycle at 8 hours)

D.C.C.Na. 60 4g / 1m³ water / day (turnover cycle at 8 hours)

Pool Size Depth 1.50 meters / Length 20 meters / Width 10 meters

Water Volume 300m³ (1.5 x 20 x 10)

Calculation 3g (T.C.C.A. 90 / day) x 300m³ = 900g (T.C.C.A. 90 / day)

4g (D.C.C.Na. 60 / day) x 300m³ = 1,200g (T.C.C.A. 90 / day)

Rapid Remedy Of Shortage

Add the product to adjust chlorine level to the target value, this reference may change depend on the water condition

General Maintenance

Regular measurement of Chlorine, pH and Total Alkalinity is important.

Chlorine 1.0 to 1.5 ppm

pH 7.0 to 7.5

Total Alkalinity 50 to 100 ppm

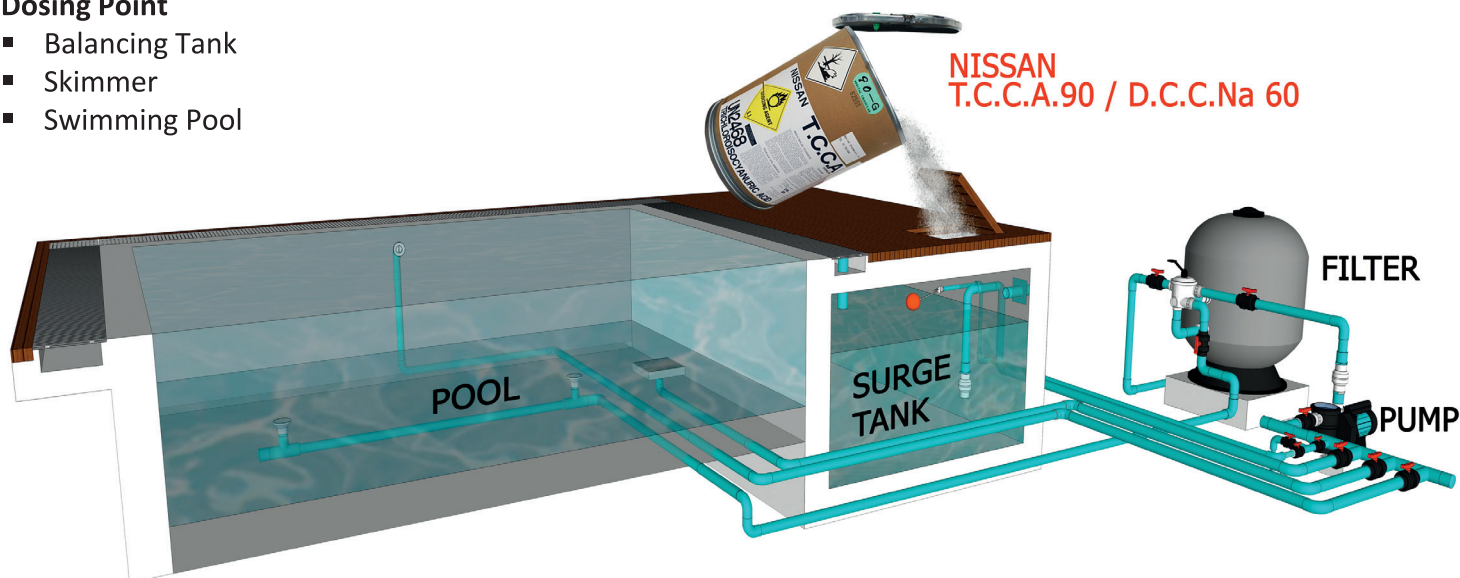
Pool Volume (M ³)	NISSAN T.C.C.A. 90 (grams/day)	NISSAN D.C.C.Na. 60 (grams/day)
50	150	200
100	300	400
200	600	800
300	900	1,200
400	1,200	1,600
500	1,500	2,000
700	2,100	2,800
1,000	3,000	4,000

Storage & Handling

- Do not mix with other chemicals
- Store under cool dry condition and away from water, moisture, any easily oxidizable matters and sources of heat.
- No sweeping or waste should be out into bins, as accidental contamination with easily oxidizable matter could fire.
- Damp or Contaminated material should never be repacked in containers

Dosing Point

- Balancing Tank
- Skimmer
- Swimming Pool



POOL&SPA Chemicals Co., LTD (Sole Distributor Thailand)

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Website: www.poolspa.co.th Email: sales@poolspa.co.th

Dealer: