Nonflammable Deodorization and Preventing Condensation Mineral Paint (NWK-800)

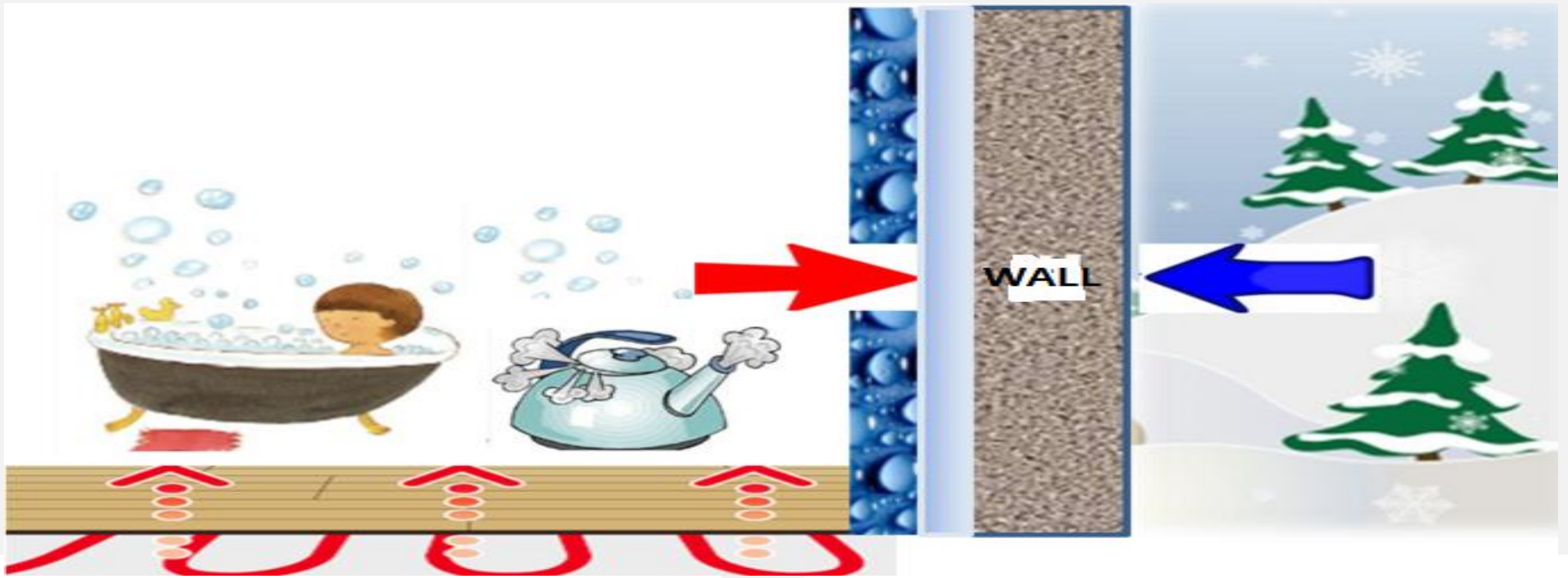
NW
NAE WOI KOREA

CONTENTS

I Indoor Environmental

1.1 Dew Condensation

(1) Occurring Mechanism

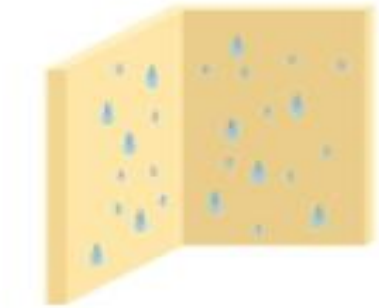


Warm, moist air + Cold objects = Occurring dew condensation

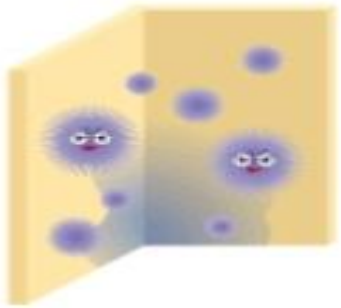
I Indoor Environmental

1.1 Dew Condensation

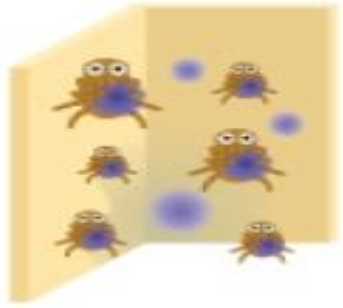
(2) Damage



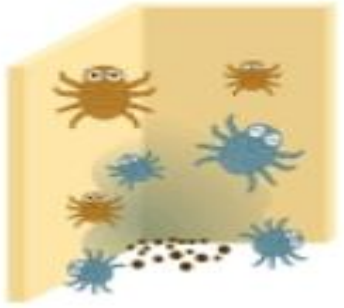
Dew condensation occurrence



Mold implantation & inhabit



Mites outbreak



Allergy-causing

Mold, mites outbreak → **Interior environmental pollution** → **Allergy-causing** → **Lower the quality of life**

I Indoor Environmental

1.1 Dew Condensation

(3) Precautionary

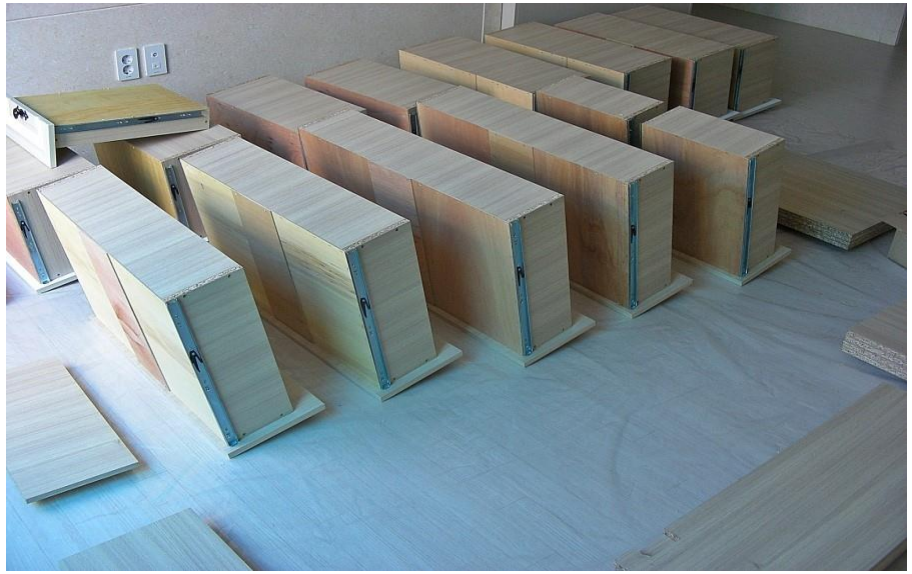
Frequent ventilation

- Waste of heating energy in winter.
- The old and weak, children catch colds.

I Indoor Environmental

1.2 Sick House Syndrome

(1) Occurring Mechanism-1



Plywood or MDF furniture use synthetic resin adhesive for laminating purpose, synthetic resin, polish, wood preservative, etc. → Indoor air pollutants emission from furniture

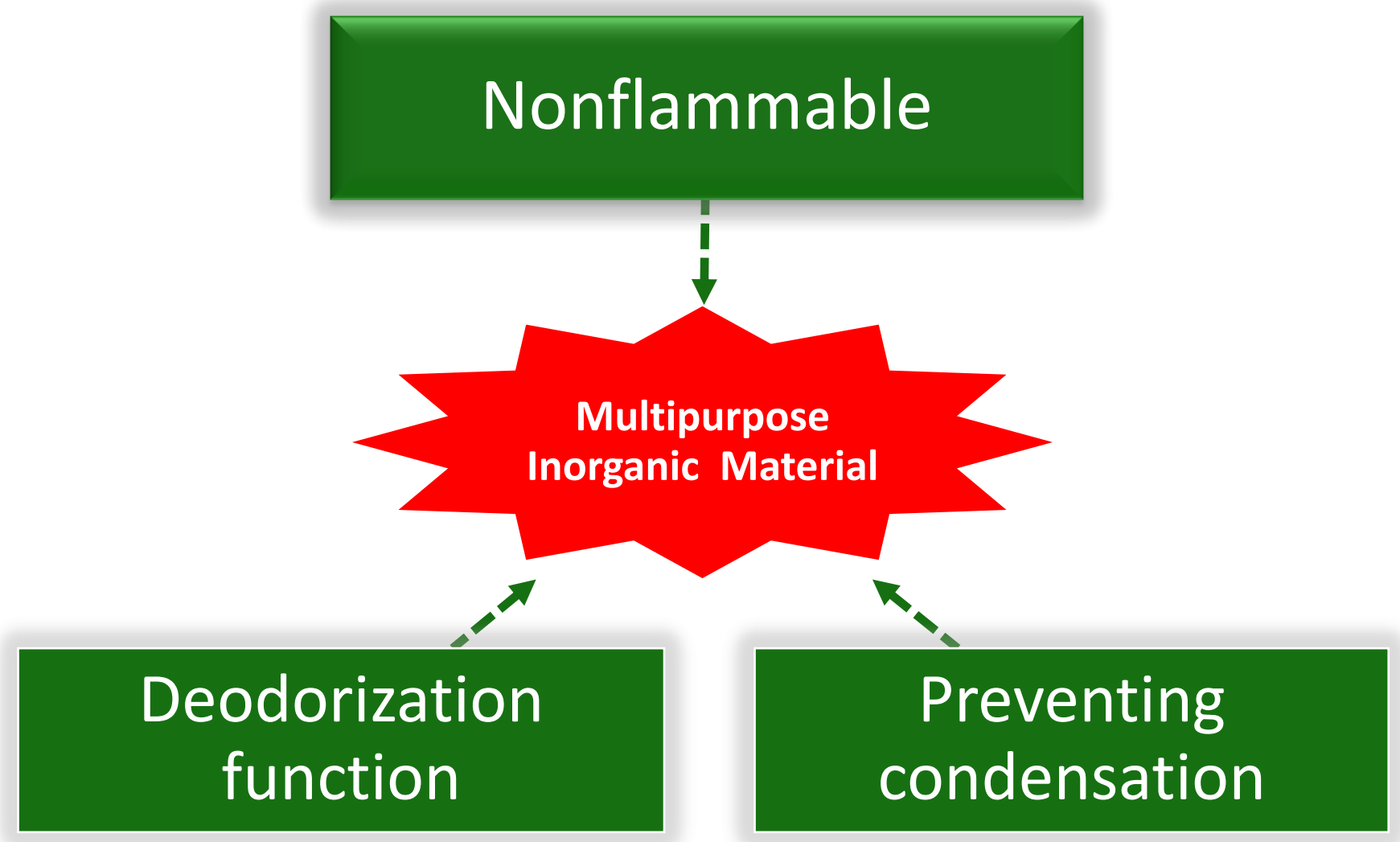
Cause itching, skin ailment, rhinitis, asthma, atopic dermatitis, etc.

Ⅱ Damage from the Fire

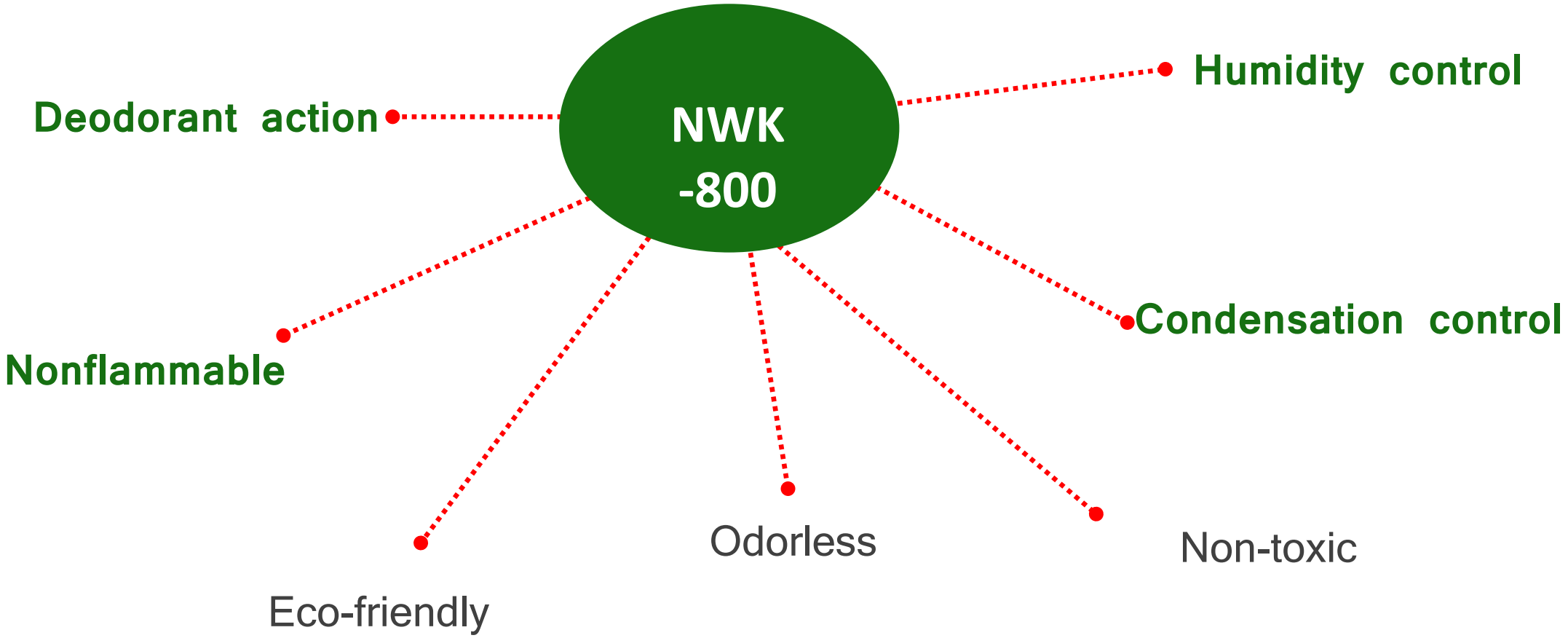
Cause smoke or
fatal gas
by synthetic resin
interior, insulator,
etc.

Causes damage of precious human lives

Ⅲ Alternative Methods

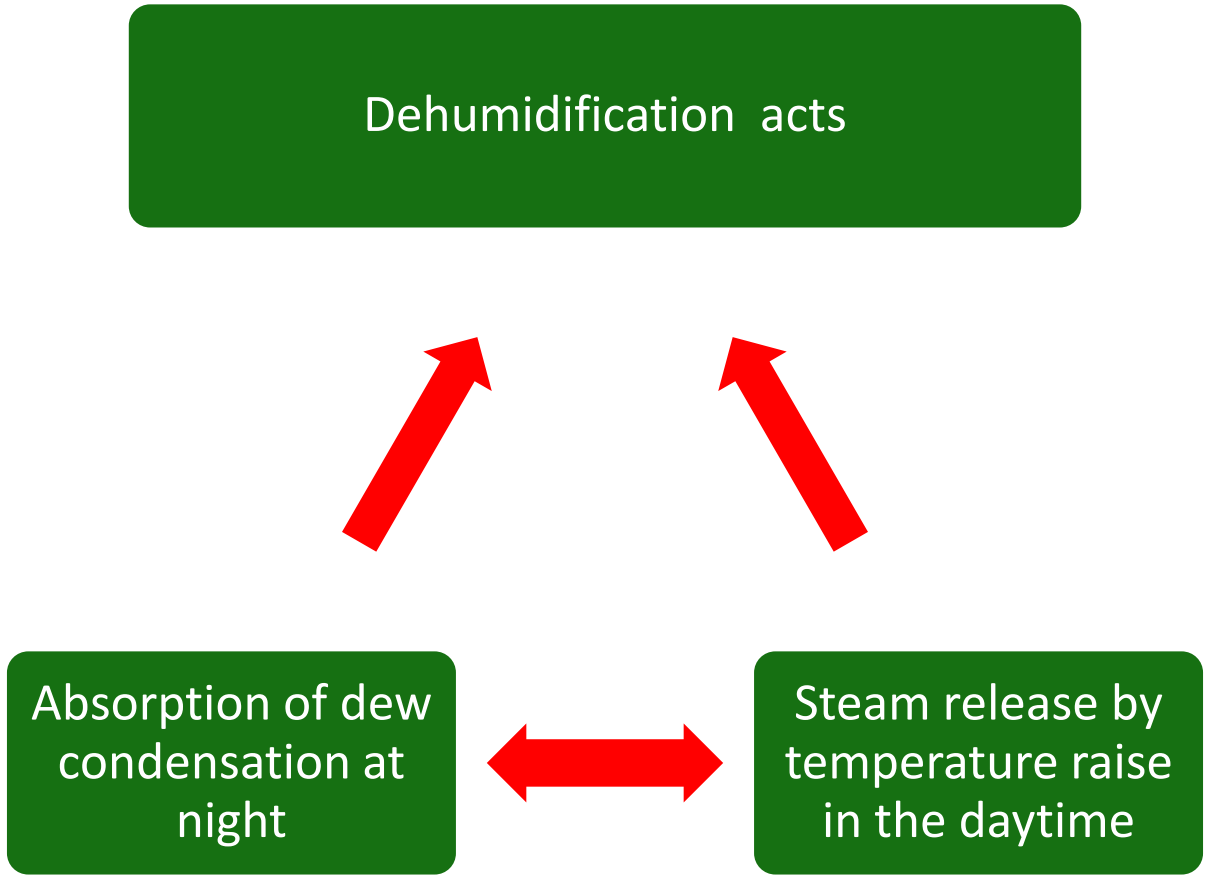


IV Characteristic of NWK-800



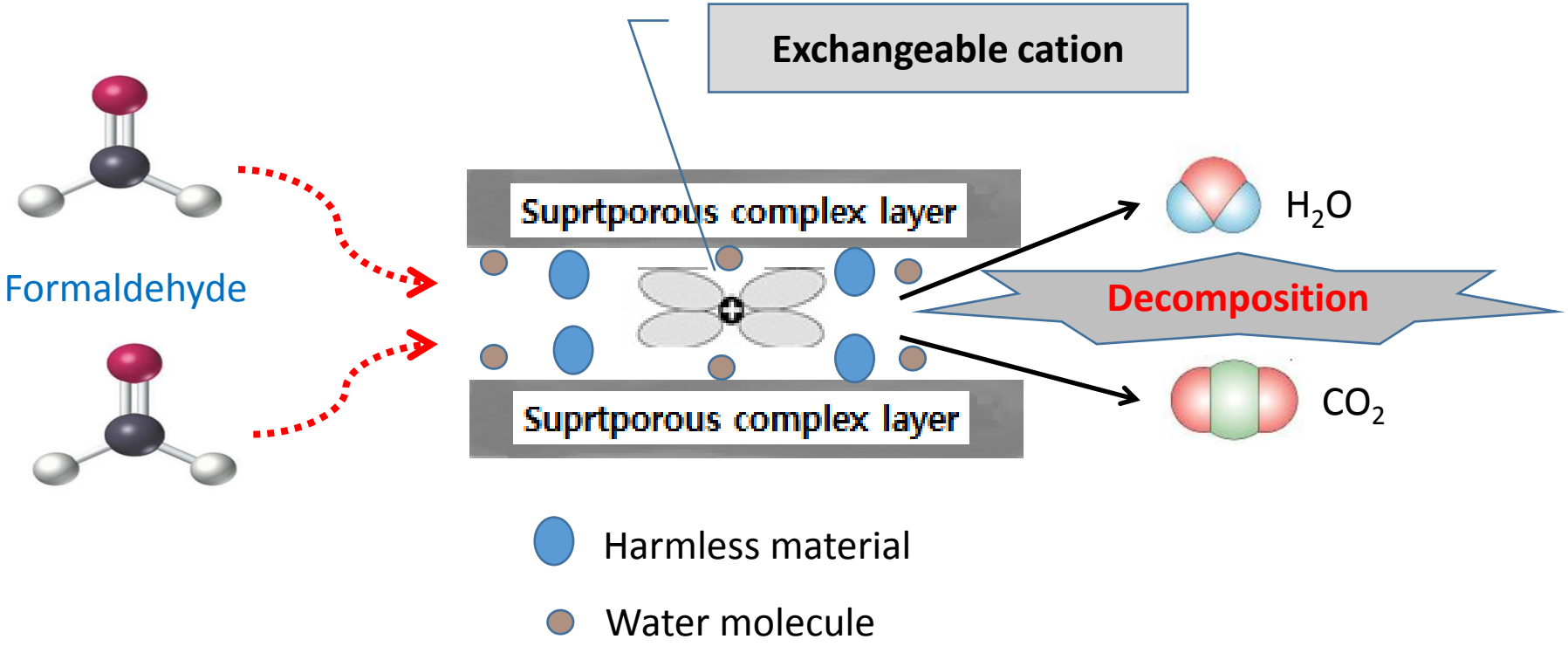
Ⅴ Principal Mechanism

5.1 Mechanism of Natural Dehumidification Acts

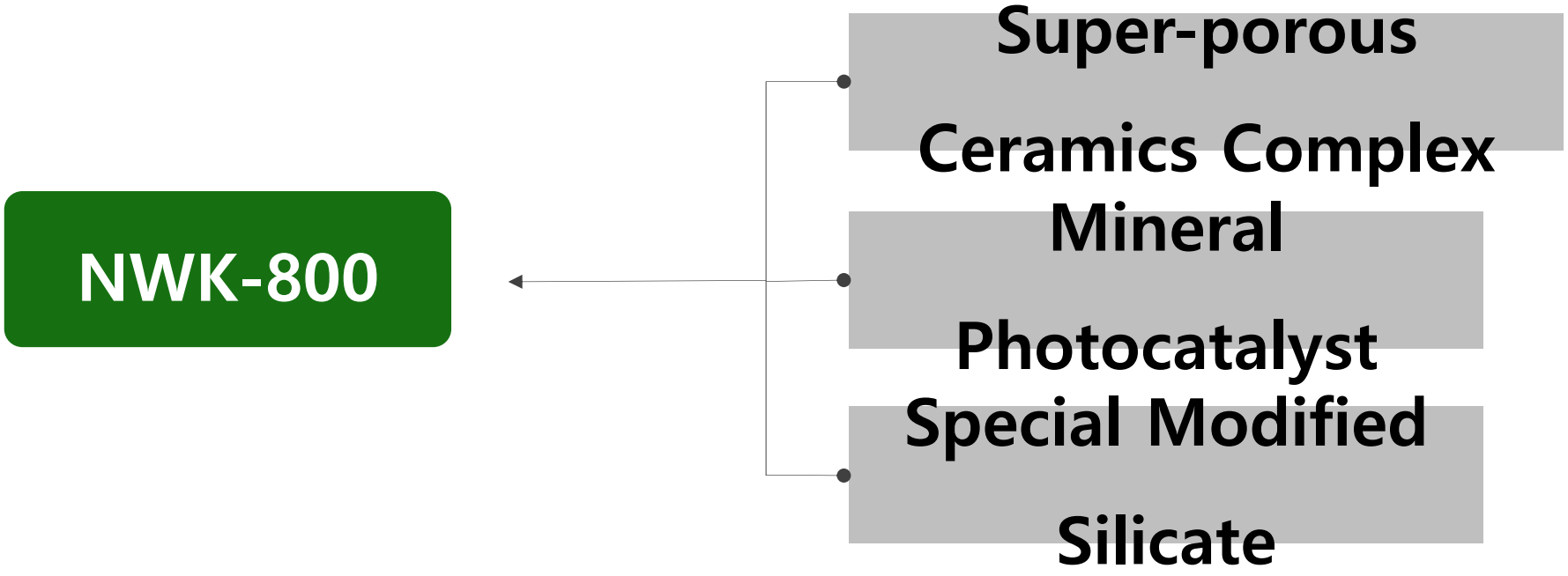


Ⅴ Principal Mechanism

5.2 Adsorption and decomposition Acts of harmful substance



VI Principal Ingredients



Ⅶ NWK-800

7.1 Physical properties

SECTION	NWK-800(A)	NWK-800(B)
Density(kg/㎥)	1.05±0.02	1.25±0.01
Solids(%)	100	25±1
Flashing point(°C)	Not applicable	No data
Appearance	Light & dark Yellow(Matte)	Transparent
Chief Ingredients	Super-porous ceramic complex	Special modified silicate
Standard amount use(kg/㎡)	0.4±0.05 kg	
Shelf life	1 year (Keep to room temperature)	
Pot life(hours)	9 ~ 10	
Tacky free(Min)	90 ~ 100	
Mixing ratio(wt%)	A : B = 1 : 2 **(Roller or Spray method)**	

* Airless method : for two continuous shot process * **Roller method → Primary painting(A:B=1: 6) / Secondary work(A:B=1:8)**

Ⅶ NWK-800

7.2 Physical performance

7.2.1 Non combustibility test : KS F ISO 1182-2004

Temperature condition		
Furnace temperature		
Initial temperature(Ave. ℃)	Highest temperature(Ave.℃)	Final equilibrium temperature(AVE.℃)
748.6	769.2	766.6

- Shielding : Ceramic tile **- Film thickness : 0.3 ~ 0.5mm** **- Heating time : 55 Min.**

(1) Conditions of non combustibility

After the end of the heat, mass reduction ratio must be no more than 30%.

(2) **Test results**

- Mass reduction ratio : 0.87%

- Duration of sustained flaming(sec) : 0 sec.

Ⅶ NWK-800

7.2 Physical performance

7.2.2 Gas toxicity test : KS F 2271

Gas Toxicity Test
Conditions : The average deed stopping time(min : sec) : more than 9 min.

Test results

- More than 14 : 55

7.2.3 Moisture absorption and damp proofing quantity test

Test items	Units	Test results	Test method
Moisture absorption amount	g/㎡	66.1	ISO 24353 -2008
Dampproofing amount		62.1	
Difference between moisture absorption amount and damp proofing amount		4.0	

Average of moisture absorption and damp proofing amounts : 64.08 g/㎡

Ⅶ NWK-800

7.2 Physical performance

7.2.4 Deodorization test : KS I 2218:2009

	HCHO	NH_3
Test method	1) The liquid sample coated on size of 100mm*200mm sheet and dried which was put into the 5L sized deodorization test chamber. 2) The test gas was injected as 20μmol/mol and then the concentration of test gas was measured at beginning, 30min, 60min, 90min, 120min after. This measurement result was named sample conc. 3) The concentration of test gas was measured by method in KS I 2218:2009 4) The temperature was (23.0±5.0)℃, the humidity was (50±15)%R.H. during the test. 5) Separately, 2~4 test was fulfilled without the test sample, and that test result was named blank conc. 6) The deodorization rate at each test time was calculated with next equation. The deodorization rate(%)=[{(blank conc.)-(sample conc.)}/(blank conc.)*100	
Test Results	30min : 75%, 60min 75%, 90min:75%, 100min:80%	30min : 75.5%, 60min 75.5%, 90min:75.5%, 100min:75.5%

Ⅶ NWK-800

7.2 Physical performance

7.2.5 Air pollutant emission test

Test items	Unit	Test results
TVOC	mg/㎡·h	0.008
Benzene		*ND
Toluene		
Ethylbenzene		
Xylene		
Styrene		
Formaldehyde		
Acetaldehyde		0.001

*ND : Not Detected

Ⅶ NWK-800

7.2 Physical performance

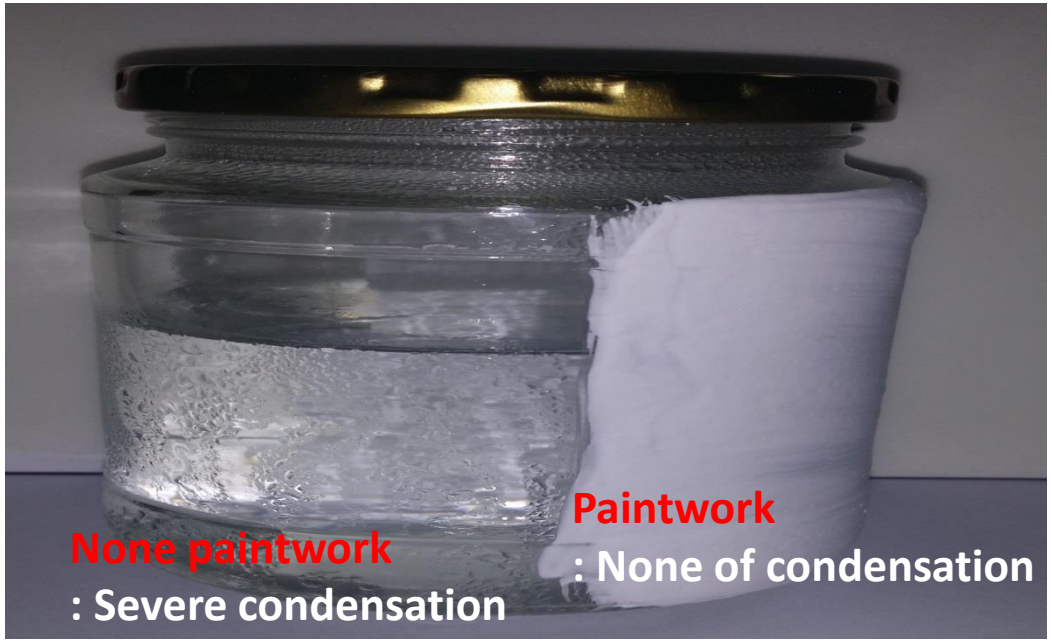
7.2.6 Anti fungal test

Test items	Unit	Test results	Test Methods
Escherichia coli ATCC 8739	Log value	4.7	JIS Z 2801-2006
Staphylococcus aureus ATCC 6538P		4.6	

7.2.7 Condensation screening test

Test Methods

(1) Half with painting on glass bottle
(2) 24 hour curing
(3) Fill with water in glass bottle
(4) Put bottle into the refrigerator
(5) In refrigerator at least 24 hours
(6) Deducted from the refrigerator
(7) Panel test
(8) Photograph shooting



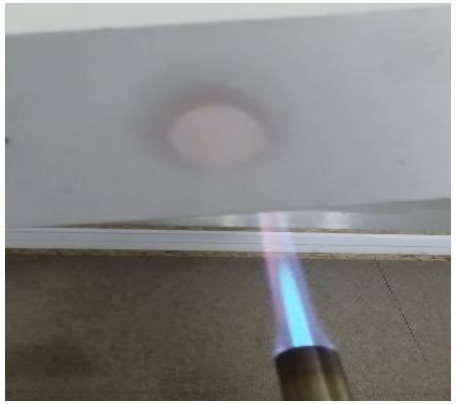
Ⅶ NWK-800

7.2 Physical performance

7.2.8 Non-flammable Screening Test

Forced starting a Fire

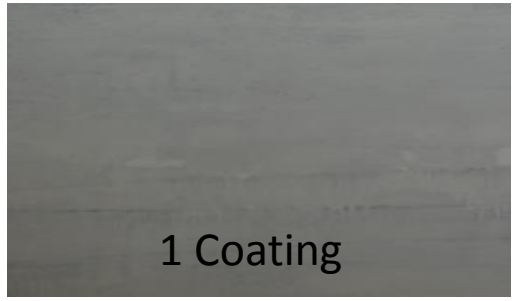
During heating



Put out a Fire

Surface state after Heating

Ⅷ Construction Method



- CONSTRUCTION TOOLS

  In the case of ceiling airless method recommended as possible. Can be used the roller when painting on the wall.

- **Building site applying such as MDF, plaster board must apply all putty work its on surfaces.**

- Primer

  Primer[strong water resisting qualities(ex:waterborne urethane based or acrylic-silicate based primer)] must apply to surface of absorbing such as concrete, mortar, water-based paint, wall paper, etc.

IX Uses

- Living room
- Sleeping room
- Musty warehouse
- Veranda
- Kitchen
- Restaurant
- Hotel rooms
- Nursing home
- Hospital
- Cooking store