# DALI PROFESSIONAL

CONTROL FOR BIG,
COMPREHENSIVE
APPLICATIONS

# DALI PROFESSIONAL

This advanced system means a new trend in illumination control. It adds a new dimension of an easy control and creation of various illuminated scenes to the advantages of the LED technology.

The DALI PROFESSIONAL system is intended for comprehensive applications of illumination control for rooms and floors, the regulation depending on daylight, RGB and the dynamic control of illumination. This system allows us to reach big savings of electricity (ca. 75 %) when compared to existing applications without control.

The configuration and putting into operation is carried out very comfortably with the use of Windows PC software through USB connection. There is a predefined Plug&Play configuration for an immediate use without the necessity of the putting into operation procedure. The handling is carried out by standard switches, which are connected to the DALI PROFESSIONAL Coupler. The **DALI PRO SENSOR Coupler** serves for an easy connection of all lighting and presence sensors. Altogether up to 50 DALI PRO Couplers can be connected. Capacity glass touch panels and a touch screen with very elegant design are used as functional controlling elements.

**Application:**

- offices
- restaurants
- assembly and industrial shop floors
- warehouses
- shopping areas

**DALI PROFESSIONAL advantages:**

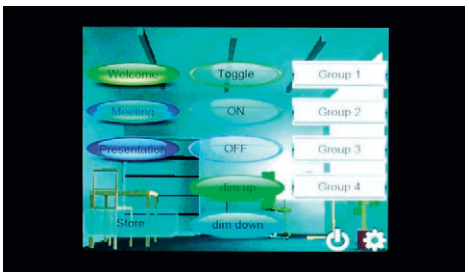
- each DALI circuit can control 64 drivers
- each DALI (A, B, C, D) circuit can contain 16 groups and save 16 scenes
- controller integrates 4 freely configurable, potential-free relays
- functions overreaching individual circuits
- control of all groups depending on daylight and space use intention with motion detection
- process control depending on space function, e.g. staircases, hallways
- graphic visualisation of device connection

**DALI PROFESSIONAL system controlling units:**

| DALI PRO SENSOR Coupler | DALI PRO Coupler | DALI PRO CONT-4 |
|---|---|---|
|  |  |  |

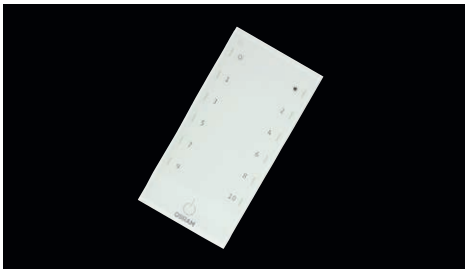
**System accessories:**

## DALI PRO Touch control touch panel




- 5.7" LCD high-resolution touch screen
- e:bus DALI gateway power supply
- Switching and dimming of all connected light fittings
- Programmable times of switching-on and switching-off for groups
- Own objects such as backgrounds, logos, keys or layout plans can be used

**Glass touch panel:**



- Smooth surface made of real glass, extremely low profile
- 12 push-button functions
- e:bus DALI gateway power supply

**Sensors:**

## HIGH BAY

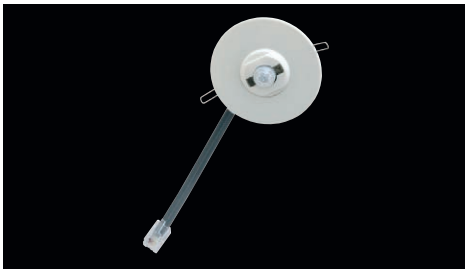
**Application:**

- Industry

Product features:

- 3 - 10 m: people motion detection
- 3 - 13 m: vehicle motion detection (e.g. fork-lift truck)
- Delay time setting: 30 s - 20 min.
- Maximum stand-by electricity consumption: 0.25 W

## LS/PD MULTI 3 CI



**Application:**

- Offices
- Hallways
- School classrooms

**Product features:**

- Ceiling-mounted sensor with movable sensor head
- Connection through four-pole terminal block or modular 4c4p connector
- Movable head with sensors

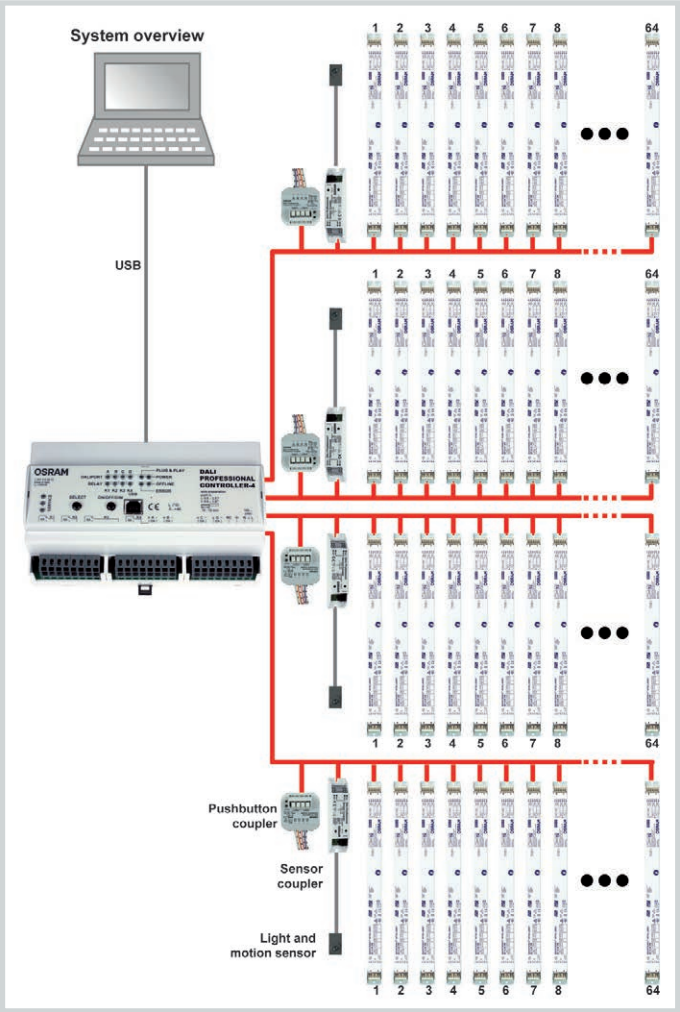
## DALI REP LI - REPEATER FOR INSTALLATION DIRECTLY INTO LIGHT FITTING

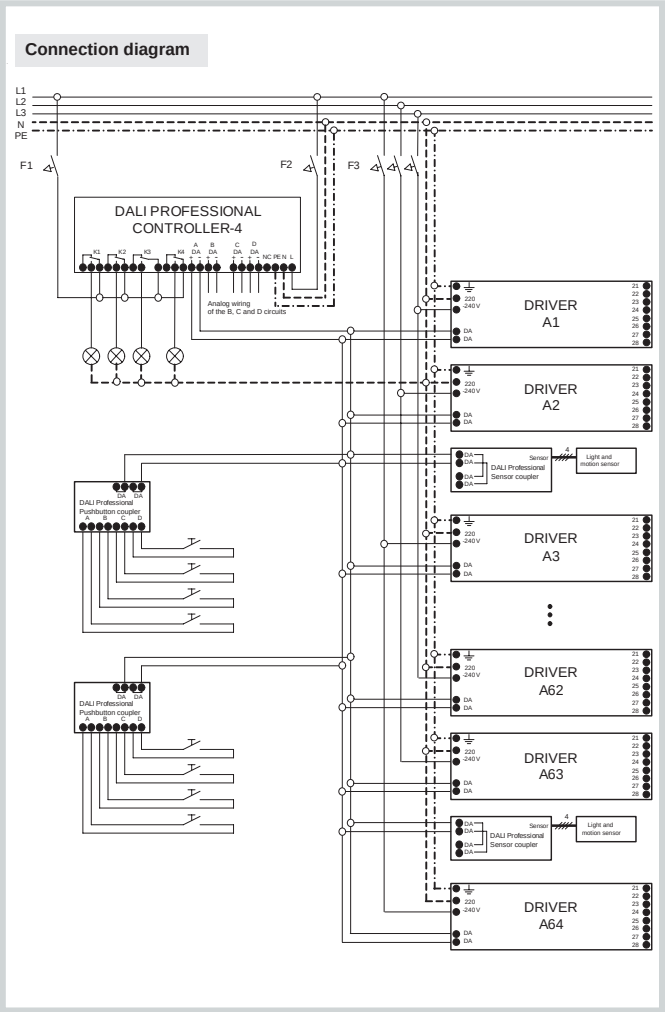

- It enables to add another 64 drivers to the DALI system
- It enables to extend the DALI line by another 300 m
- Drivers connected to a repeater work as a group
- Maximum input: 4 W

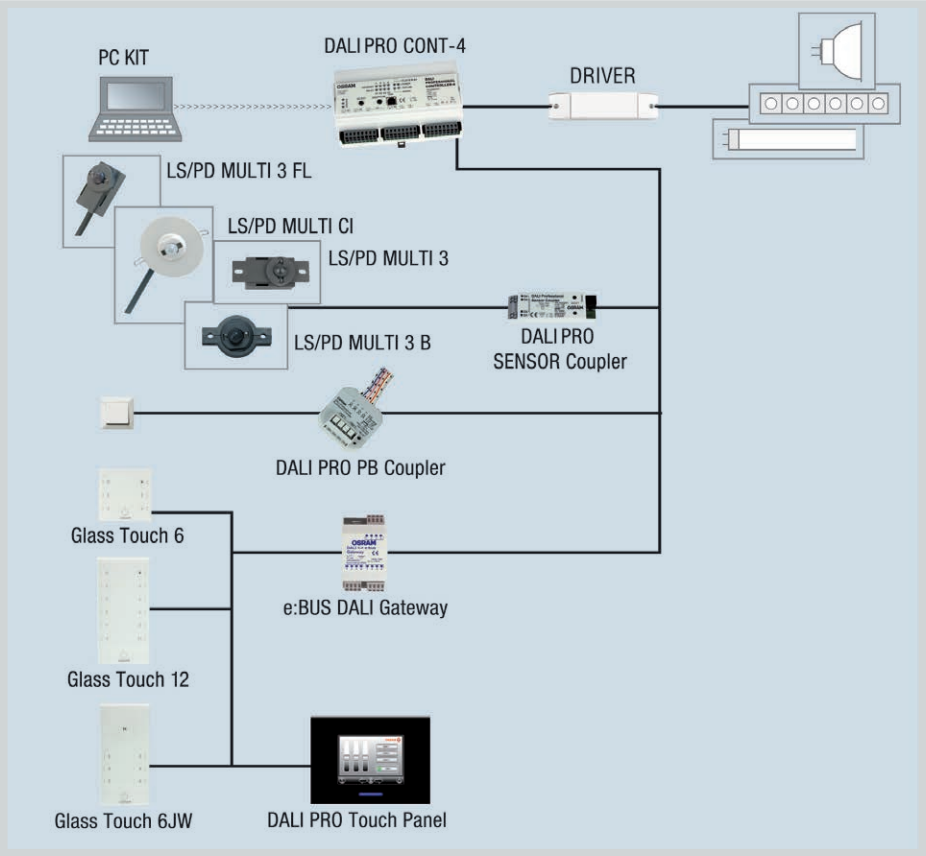
## DALI REP SO - REPEATER FOR INSTALLATION INTO SWITCHBOARD ON DIN BUSBAR


- It enables to add another 64 drivers to the DALI system
- It enables to extend the DALI line by another 300 m
- Drivers connected to a repeater work as a group
- Stand-by consumption: max. 1 W

## Wiring diagram:



# ORIENTATIONAL CHART OF ARRANGEMENT OF EMERGENCY LIGHT FITTINGS

## FUTURA

| Installation height [m] |  |  |  |  |  |
|---|---|---|---|---|---|
| **2,0** | 4,1 | 9,3 | 9,0 | 8,6 | 3,7 |
| **2,5** | 4,3 | 11,2 | 10,8 | 10,3 | 4,1 |
| **3,0** | 4,6 | 12,0 | 11,5 | 11,1 | 4,3 |
| **3,5** | 4,8 | 12,6 | 12,1 | 11,7 | 4,5 |
| **4,0** | 4,9 | 13,1 | 12,7 | 12,2 | 4,7 |
| **5,0** | 5,2 | 13,7 | 13,1 | 12,7 | 4,9 |
| **6,0** | 5,3 | 14,0 | 13,5 | 13,2 | 5,1 |

## PRIMA LED

|  |  |  |  |  |
|---|---|---|---|---|
| 4,1 | 9,6 | 8,8 | 8,0 | 3,5 |
| 4,5 | 11,4 | 10,5 | 9,6 | 3,9 |
| 4,6 | 12,2 | 11,3 | 10,3 | 4,1 |
| 4,8 | 12,8 | 11,9 | 11,0 | 4,3 |
| 4,9 | 13,3 | 12,4 | 11,5 | 4,4 |
| 5,2 | 13,7 | 13,0 | 12,3 | 4,6 |
| 5,4 | 14,1 | 13,3 | 12,8 | 4,8 |

## ALUMAX LED

| Installation height [m] |  |  |  |  |  |
|---|---|---|---|---|---|
| **2,0** | 3,1 | 6,7 | 7,3 | 7,7 | 3,4 |
| **2,5** | 3,4 | 8,3 | 9,0 | 9,4 | 4,0 |
| **3,0** | 3,7 | 9,1 | 9,8 | 10,3 | 4,3 |
| **3,5** | 4,0 | 9,8 | 10,5 | 11,2 | 4,6 |
| **4,0** | 4,1 | 10,4 | 11,2 | 11,9 | 4,7 |
| **5,0** | 4,6 | 11,2 | 12,1 | 12,8 | 5,2 |
| **6,0** | 4,8 | 12,1 | 13,1 | 13,7 | 5,4 |

## PERUN SLIM

|  |  |  |  |  |
|---|---|---|---|---|
| 3,6 | 8,1 | 8,3 | 8,6 | 3,7 |
| 4,0 | 9,8 | 10,1 | 10,3 | 4,1 |
| 4,3 | 10,6 | 10,9 | 11,1 | 4,4 |
| 4,5 | 11,4 | 11,6 | 11,8 | 4,6 |
| 4,6 | 12,0 | 12,2 | 12,4 | 4,7 |
| 4,9 | 12,6 | 12,7 | 13,1 | 5,0 |
| 5,1 | 13,2 | 13,3 | 13,7 | 5,2 |

## NAOS MPR

| Installation height [m] |  |  |  |  |  |
|---|---|---|---|---|---|
| **2,0** | 3,2 | 7,4 | 7,4 | 7,5 | 3,2 |
| **2,5** | 3,4 | 8,7 | 8,6 | 8,5 | 3,5 |
| **3,0** | 3,8 | 9,3 | 9,2 | 9,2 | 3,8 |
| **3,5** | 4,1 | 9,9 | 10,0 | 10,0 | 4,1 |
| **4,0** | 4,3 | 10,5 | 10,6 | 10,7 | 4,2 |

## NAOS

|  |  |  |  |  |
|---|---|---|---|---|
| 3,3 | 8,4 | 8,5 | 8,6 | 3,4 |
| 3,7 | 9,2 | 9,3 | 9,4 | 3,7 |
| 3,8 | 10,0 | 10,0 | 10,0 | 3,8 |
| 4,0 | 10,4 | 10,5 | 10,6 | 4,0 |
| 4,1 | 10,9 | 10,9 | 11,0 | 4,1 |

Maintenance factor: 0.80
Minimum illuminance in axis: 1 lx
Minimum illuminance at half-width of escape route: 0.5 lx

Escape route width: 2.0 m
Evenness in axis max. 40 : 1

# ORIENTATIONAL CHART OF ARRANGEMENT OF EMERGENCY LIGHT FITTINGS

## LINEA Square

| Installation height [m] |  |  |  |  |  |
|---|---|---|---|---|---|
| **2,0** | 3,2 | 8,2 | 7,8 | 7,4 | 2,8 |
| **2,5** | 3,3 | 8,9 | 8,4 | 8,0 | 3,1 |
| **3,0** | 3,4 | 9,3 | 8,8 | 8,4 | 3,1 |
| **3,5** | 3,4 | 9,6 | 9,2 | 8,7 | 3,1 |
| **4,0** | 3,3 | 9,8 | 9,4 | 9,0 | 3,1 |

## LINEA Round

|  |  |  |  |  |
|---|---|---|---|---|
| 3,1 | 7,9 | 7,9 | 7,9 | 3,1 |
| 3,2 | 8,4 | 8,4 | 8,4 | 3,2 |
| 3,2 | 8,8 | 8,8 | 8,8 | 3,2 |
| 3,1 | 9,1 | 9,1 | 9,1 | 3,1 |
| 3,1 | 9,2 | 9,2 | 9,2 | 3,1 |

## LINEA

| Installation height [m] |  |  |  |  |  |
|---|---|---|---|---|---|
| **2,0** | 3,4 | 9,0 | 8,4 | 7,7 | 3,0 |
| **2,5** | 3,7 | 9,7 | 9,0 | 8,3 | 3,3 |
| **3,0** | 3,8 | 10,2 | 9,6 | 8,9 | 3,3 |
| **3,5** | 3,8 | 10,7 | 10,0 | 9,3 | 3,3 |
| **4,0** | 3,8 | 10,9 | 10,2 | 9,5 | 3,4 |

## BELTR LED

|  |  |  |  |  |
|---|---|---|---|---|
| 3,4 | 8,5 | 8,3 | 7,8 | 3,2 |
| 3,7 | 9,3 | 9,1 | 8,7 | 3,4 |
| 3,8 | 10,0 | 9,8 | 9,3 | 3,7 |
| 4,0 | 10,5 | 10,3 | 9,8 | 3,7 |
| 4,1 | 11,0 | 10,8 | 10,3 | 3,8 |

## MO LED

| Installation height [m] |  |  |  |  |  |
|---|---|---|---|---|---|
| **2,0** | 4,0 | 9,8 | 8,7 | 7,7 | 3,2 |
| **2,5** | 4,2 | 10,6 | 9,6 | 8,5 | 3,5 |
| **3,0** | 4,5 | 11,4 | 10,3 | 9,3 | 3,8 |
| **3,5** | 4,7 | 12,0 | 11,0 | 10,0 | 4,0 |
| **4,0** | 4,8 | 12,5 | 11,5 | 10,5 | 4,2 |

Maintenance factor: 0.80
Minimum illuminance in axis: 1 lx
Minimum illuminance at half-width of escape route: 0.5 lx

Escape route width: 2.0 m
Evenness in axis max. 40 : 1

| Source colour rendering correct choice | | Warm white | | | | | White | | | | Daylight | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Shot light | | | | | | | | | | | | | Horti-cultural |
| Light colour | 79 | 29 | 827 | 927 | 830 | 930 | 25 | 33 | 840 | 940 | 950 | 865 | 965 | 54 |
| CIE division | | 3 | 1B | 1A | 1B | 1A | 2A | 2B | 1B | 1A | 1A | 1B | 1A | 2A |
| Shop - foodstuff | | | | | ● | | | | ● | | | | | |
| Shop - meat | ● | | | | | | | | ● | | | | | |
| Shop - textiles, leather | | | | ● | | ● | | | | ● | | | | |
| Hairdressers', beauty salons | | | | ● | | ● | | | | ● | | | | |
| Workshops, mechanics | | | | | | | | | ● | | | ● | | |
| Printing | | | | | | | | | | ● | ● | | ● | |
| Warehouses | | | | | | | | | ● | | | | | |
| Paintshops | | | | | | | | | ● | | | ● | | |
| Colour testing | | | | | | | | | | | ● | | ● | |
| Growing of plants | | | | | | | | | | | | | | ● |
| Households, restaurants | | | ● | ● | | | | | | | | | | |
| Offices, school rooms | | | | | ● | | | | ● | | | | | |
| Museums | | | | | | ● | | | | ● | | | | |
| Hospital rooms | | | | ● | | ● | | | | | | | | |
| Consulting rooms | | | | | | | | | | ● | | | | |
| Sporting facilities | | | | | ● | | | | ● | | | | | |
| Outdoor illumination | | ● | | | | | | ● | | | | | | ● |

● Recommended  Permissible

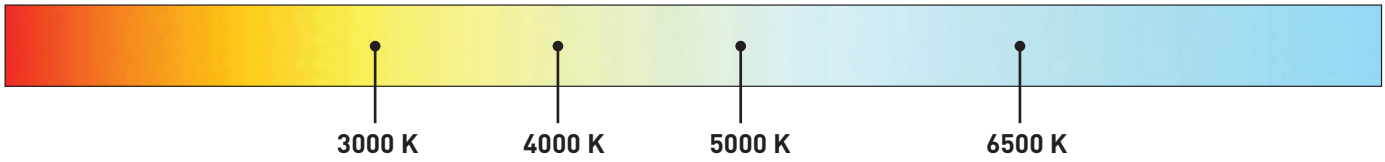
**CRI - COLOUR RENDERING INDEX**

It determines the colour sensation accuracy at other than daily lighting. It is given at the scale from 0 to 100; the higher the value, the better. The standard colour rendering index of TREVOS LED light fittings is 80, or 90 upon request.

**CCT - CHROMATICITY TEMPERATURE**

It determines the colour spectrum of the light (it is given in Kelvin - K).

The optimal lighting values are perceived as white light - about 5.000 - 7.000 K (5.000 K - common daylight); higher values are perceived as a light with blue shade, while lower values as a light with yellow to red shade. The standard chromaticity temperature of TREVOS LED light fittings is 4.000 K, or 3.000, 5.000 or 6.500 K upon request.



## CHEMICAL RESISTANCE OF LIGHT FITTING BODIES

| Environment | Maximum concentration | Polycarbonate/PC | | | Acrylate/AC (SAN, PMMA) | | | ABS | | | Aluminium/Al (DIN 230) | | | Polyamide (PA6/66) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Resistance | | | Resistance | | | Resistance | | | Resistance | | | Resistance | | |
| | | yes | partially | no | yes | partially | no | yes | partially | no | yes | partially | no | yes | partially | no |
| Aceton (ketones) | | | | ● | | | ● | | | ● | ● | | | ● | | |
| Aniline | | | ● | | | | ● | | | ● | | ● | | | ● | |
| Ammonia | 5% | | | ● | ● | | | ● | | | | ● | | ● | | |
| Benzaldehyde | | | | | | | ● | | | ● | | | | | ● | |
| Benzene | | | | ● | | | ● | | | ● | | ● | | | | ● |
| Diethylether (ethers) | | | | ● | | ● | | | | ● | ● | | | ● | | |
| Potassium nitrate | 40% | ● | | | ● | | | ● | | | | ● | | | ● | |
| Ethanol (alcohols) | 50% | ● | | | | ● | | | ● | | | ● | | ● | | |
| Ethylacetate (esters) | | | | ● | | | ● | | | ● | | ● | | | ● | |
| Ethyl alcohol | | ● | | | | ● | | ● | | | | ● | | ● | | |
| Phenol | | | | ● | | | ● | | | ● | ● | | | | | ● |
| Glycerine | | | ● | | ● | | | | | | ● | | | ● | | |
| Heptane | | | | | | ● | | | | ● | ● | | | | | |
| Ammonium hydroxide | 25% | | | | ● | | | | ● | | | ● | | | | |
| Sodium hydroxide - base | 60% | | | ● | ● | | | ● | | | | | ● | | ● | |
| Sodium chloride - salt solution | 15% | ● | | | ● | | | ● | | | | ● | | ● | | |
| Sulphur chloride and Calcium chloride | | ● | | | ● | | | ● | | | | | ● | ● | | |
| Carbon tetrachloride and Chloric ether | | | | ● | | | ● | | | ● | | ● | | | | |
| Iron dichloride | | ● | | | ● | | | ● | | | | | ● | | | |
| Arsenic acid and Oleic acid | | ● | | | ● | | | ● | | | | | ● | ● | | |
| Citric acid | 20% | ● | | | ● | | | ● | | | | ● | | | ● | |
| Nitric acid | 20% | | ● | | | ● | | | ● | | | | ● | | | ● |
| Nitric acid | 50% | | | ● | | | ● | | | ● | | | ● | | | ● |
| Hydrochlorid acid | 5% | ● | | | ● | | | ● | | | ● | | | | | ● |
| Hydrochlorid acid | 35% | | | ● | | | ● | | | ● | | ● | | | | ● |
| Chromic acid | 40% | | ● | | | ● | | | ● | | | ● | | | | ● |
| Formic acid | 30% | | | ● | | ● | | | ● | | | | ● | | | ● |
| Acetic acid | 10% | ● | | | ● | | | | ● | | | ● | | | ● | |
| Sulphuric acid | 30% | ● | | | ● | | | | ● | | | | ● | | | ● |
| Methanol | | | | ● | | | ● | | | ● | | ● | | | ● | |
| Fuel oil | | | ● | | | ● | | ● | | | ● | | | ● | | |
| Mineral oil | | | ● | | ● | | | ● | | | ● | | | ● | | |
| Vegetable oil | | | ● | | ● | | | ● | | | ● | | | | ● | |
| Rape oil | | | ● | | ● | | | | ● | | ● | | | ● | | |
| Lamp oil | | | ● | | | ● | | | ● | | ● | | | ● | | |
| Hydrogen peroxide | 30% | ● | | | ● | | | ● | | | ● | | | | | ● |
| Ammonium sulphate | 15% | ● | | | ● | | | ● | | | ● | | | ● | | |
| Toluene | | | | ● | | | ● | | | ● | ● | | | ● | | |
| Turpentine oil | | | | | | | | | | ● | | ● | | | | |
| Trichlorethylene | | | | ● | | | ● | | | ● | | ● | | | ● | |
| Sodium carbonate | 20% | ● | | | ● | | | ● | | | | ● | | ● | | |
| Aliphatic hydrocarbons | | ● | | | ● | | | | ● | | ● | | | ● | | |
| Aromatic hydrocarbons | | | | ● | | | ● | | | ● | ● | | | ● | | |
| Alkali | | | | ● | ● | | | ● | | | ● | | | | | |