

# Train Routes and CO2 Emissions Report

## For Shipping from Rotterdam to Warehouses with Cold Storage Containers

### Source Address

Albert Plesmanweg 240 (Portno. 2450), Rotterdam, 3089KK, The Netherlands

### Emissions Calculation Method

- Regular freight train: ~22g CO2 per tonne-km
- Cold storage containers: 35% additional emissions due to refrigeration (29.7g CO2 per tonne-km)
- Calculations based on standard 20-tonne container shipments

### Routes Sorted by Distance (Shortest to Longest)

#### 1. REWE Group Headquarters (Cologne)

- **Address:** Domstraße 20, 50668 Cologne, Germany
- **Distance:** 270 km
- **Cold Storage Emissions:** 160.38 kg CO2
- **Route:** Rotterdam → Utrecht → Eindhoven → Venlo → Duisburg → Cologne

#### 2. REWE Central Dry Goods Warehouse (Neu-Isenburg)

- **Address:** Im Schwarzenbruch 1, 63263 Neu-Isenburg, Germany
- **Distance:** 400 km
- **Cold Storage Emissions:** 237.60 kg CO2
- **Route:** Rotterdam → Utrecht → Duisburg → Frankfurt → Neu-Isenburg

#### 3. Hamburg Warehouses

All Hamburg warehouses are approximately 460 km from Rotterdam with identical emissions.

##### a. Edeka Zentrale AG & Co KG Headquarters

- **Address:** New-York-Ring 6, 22297 Hamburg, Germany
- **Cold Storage Emissions:** 273.24 kg CO2

##### b. Lidl Verteilzentrum Hamburg

- **Address:** Werner-Otto-Straße 1-7, 22179 Hamburg, Germany
- **Cold Storage Emissions:** 273.24 kg CO2

##### c. REWE Nord Logistics Center

- **Address:** Daimlerstraße 2, 21629 Neu Wulmstorf, Germany
- **Cold Storage Emissions:** 273.24 kg CO2

**Route for all Hamburg warehouses:** Rotterdam → Utrecht → Amersfoort → Osnabrück → Bremen → Hamburg

#### 4. Berlin Warehouses

All Berlin warehouses are approximately 680 km from Rotterdam with identical emissions.

##### a. Edeka Minden-Hannover Freienbrink

- **Address:** Am Logistikzentrum 1, 15537 Grünheide, Germany
- **Cold Storage Emissions:** 403.92 kg CO2

##### b. Lidl Logistikzentrum Berlin-Brandenburg

- **Address:** Straße der Einheit 122-128, 14612 Falkensee, Germany
- **Cold Storage Emissions:** 403.92 kg CO2

##### c. REWE Ost Logistikzentrum

- **Address:** Am Südpark 1, 14974 Ludwigsfelde, Germany
- **Cold Storage Emissions:** 403.92 kg CO2

**Route for all Berlin warehouses:** Rotterdam → Utrecht → Osnabrück → Hannover → Berlin

#### 5. Munich Warehouses

All Munich warehouses are approximately 890 km from Rotterdam with identical emissions.

##### a. Edeka Südbayern Logistics Center

- **Address:** Otto-Hahn-Ring 10, 81739 Munich, Germany
- **Cold Storage Emissions:** 528.66 kg CO2

##### b. Lidl Logistikzentrum München

- **Address:** Bajuwarenring 1, 82041 Oberhaching, Germany
- **Cold Storage Emissions:** 528.66 kg CO2

**Route for all Munich warehouses:** Rotterdam → Utrecht → Duisburg → Frankfurt → Nuremberg → Munich

#### Summary Statistics

- **Total Distance (all warehouses):** 5,870 km
- **Average Distance per Warehouse:** 587 km

- **Total CO2 Emissions (Cold Storage, all warehouses):** 3,486.78 kg CO2

## Notes

1. Distances are approximate rail routes between cities, not direct distances.
2. Actual routes may vary based on rail network availability and scheduling.
3. For precise emissions calculations, consider specific train types, actual cargo weight, and exact routes.
4. Additional emissions from first/last mile transport to/from rail terminals are not included.