Safety Evaluation Table of Domestic Production Bases

Safety Evaluation of Substances subject to PRTR

How to look at the "Degree of Safety Evaluation"

While the PRTR Law requires reports of discharge amounts of chemical substances into the environment, the impact of chemical substances on the environment largely depends not only on the discharge amount but also on the hazardousness. Therefore, it is necessary to take action based on comprehensive evaluation to reduce the risk of chemical substances on the environment, considering both the discharge amount and hazardousness.

Accordingly, since FY2006, with reference to the "Guidelines for Evaluation of Degree of Impact on Safety by Chemical Substances" issued by Kanagawa Prefecture, we have calculated the "translation discharge amount" obtained by multiplying the "discharge amount" of the individual substances to be reported under the PRTR Law by "toxic coefficient" depending on the hazardousness published by Kanagawa Prefecture and calculated the total discharge amount by adding them together. Then, we ranked the degree of impact on "human health" and "ecological system." We clarified the direction of risk reduction by indicating the position of each business site with reference to "Evaluation Table of Degree of Impact on Safety."

For example, the Hiratsuka Factory recorded a total translation discharge amount for human health of 5,864.5 tons and ranked II and as a total translation discharge amount for the ecological system at 71.7t, it ranked 4. Accordingly, the degree of impact on safety of the Hiratsuka Factory is indicated as "II-4."

FY2013 Improvements

Due to toluene emission reductions, each of the Shinshiro Plant and the Adhesives and Sealants Plant improved by one rank on "ecosystem" and "human health", respectively. Due to progress at the Mishima Plant and Onomichi Plant in reducing hydrazine usage and emissions, each experienced rank increases on "human health". At the Mie Plant where dioxin storage and processing concluded last year, there was a 2 rank increase on "human health" (III \Rightarrow V).

Concerning some substances used at the Shinshiro-Minami Plant, however, because they became subject to newly-established toxicity rankings, there was a 3 rank decline on "human health" ($VIII \rightarrow V$). (This plant had experienced a rank increase in FY2012).

Safety Evaluation in FY2013 (Impact on human health and ecological system)

There was no discharge significantly affecting the ecological system. Arrows (\longrightarrow) in the table below indicate progress from FY2012. The letters with light color show an evaluation result in 2012.

Explanation about Degree of Impact on Safety

Toxicity ranking and toxicity factor

-	-			
Rank	А	В	С	D
Toxicity factor	1000	100	10	1

Ranking of effects on human health

Ranking of effects on the ecosystem

Rank	Total converted emissions (Effects on human health)	Rank
I	10,000 t or more	1
I	3,000 t to 10,000 t	2
Ш	1,000 t to 3,000 t	3
IV	300 t to 1,000 t	4
V	100 t to 300 t	5
VI	30 t to 100 t	
VII	10 t to 30 t	
VIII	Less than 10 t	

l emissions nan health)	Rank	Total converted emissions (Effects on the ecosystem)
more	1	10,000 t or more
0,000 t	2	1,000 t to 10,000 t
,000 t	3	100 t to 1,000 t
00 t	4	10 t to 100 t
D t	5	Less than 10 t

Changes in Safety Evaluation of each Plant

Plant Name	2010	2011	2012	2013	Improvement or worsened points
Hiratsuka Plant	II -3	II -4	II -5	II -4	Emissions volumes have increased slightly due to increased toluene usage.
Adhesives and Sealants Plant	VIII-3	IV-3	VI-5	VII-5	Toluene emission volumes have essentially halved.
Hiratsuka East Plant	—	-	VI-5	VI-5	The impact of dichloromethane substitute usage.
Nagano Plant		-	VIII-5	VIII-5	No subject substances.
Ibaraki Plant	VI-3	VI-5	VII-5	VII-5	Not change from last year.
Shinshiro Plant	V-3	III -3	IV-3	IV-4	The effect of a reduction in toluene usage.
Shinshiro- Minami Plant	IV-2	V -5	VIII-5	V-5	The impact of using substances to which newly- established toxicity rankings apply.
Mie Plant	VI-5	II -2	-4	V-4	The result of dioxin storage and processing concluding.
Mishima Plant	VI-3	V -2	V-4	VI-4	The result of stopping usage of hydrazine.
Onomichi Plant	IV-3	IV-4	IV-4	VIII-5	The result of hydrazine zero emission volumes.

Effects on safety (effects on the ecosystem) Category 2 3 4 1 5 Worse Better I Worse Great effect on Effects on safety (effects on human health) human health Ш Hiratsuka Factory 🗲 Hiratsuka Factory (FY2012) Ш Mie Plant (FY2012) Moderate effect on Onomichi Plant (FY2012) IV Shinshiro Plant human health Mishima Plant (FY2012) ۷ Shinshiro-Minami Plant VI Mishima Plant Hiratsuka East Factory Small effect on Adhesives and Sealants Plant VII human health Ibaraki Plant VIII Better Onomichi Plant Small effect on the ecosystem Great effect on the ecosystem Moderate effect on the ecosystem

* As the Nagano Plants have no substances to be reported (less than 1 ton), they are not attached * Each plant discloses information in accordance with the laws.