**Supplementary Materials**

**Figure legend**

Figure S1 Dazomet granules in a range of diameters.

Figure S2 Degradation times of Wenshan compared with Shunyi (A) and Suihua (B) at different soil moisture.

Figure S3 The structure of the main products produced by the hydrolysis (labelled h), degradation in soil (labelled s) and transformation in animals (labelled a) of dazomet. (Roberts and Hutson, 1999 and Subramanian et al. 1996)

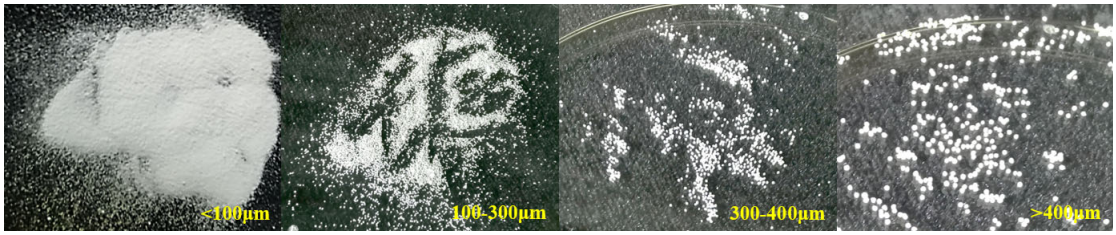


Figure S1 Dazomet granules in a range of diameters.

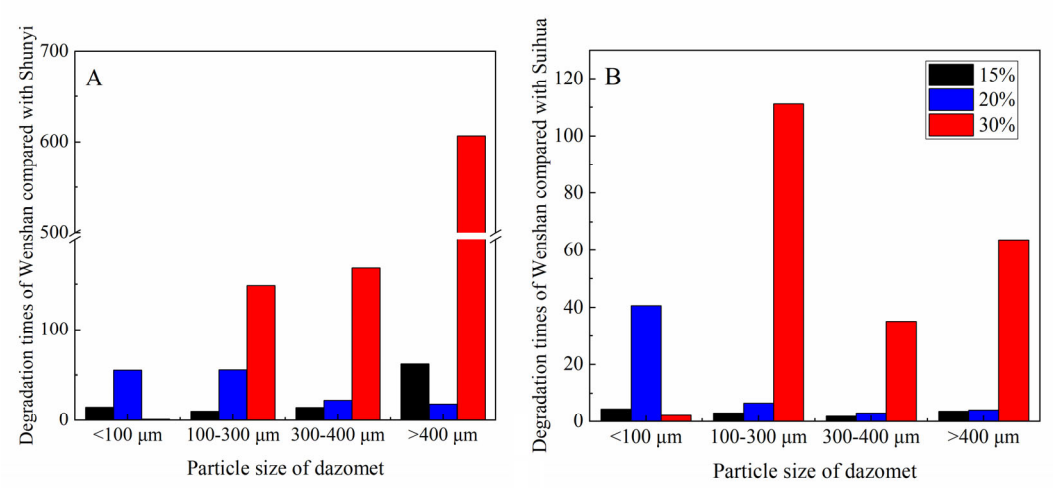


Figure S2 Degradation times of Wenshan compared with Shunyi (A) and Suihua (B) at different soil moisture.

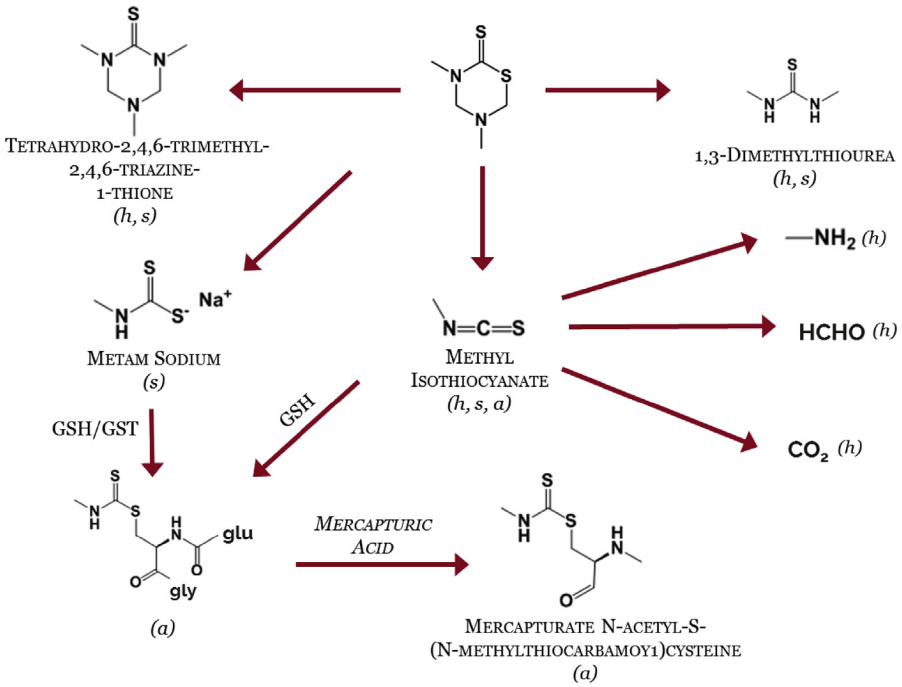


Figure S3 The structure of the main products produced by the hydrolysis (labelled h), degradation in soil (labelled s) and transformation in animals (labelled a) of dazomet. (Roberts and Hutson, 1999 and Subramanian et al. 1996)

**Table legends**

Table S1 Spearman's correlation analysis between degradation half-life of dazomet with different particle sizes and soil physico-chemical properties

Table S2 The specific surface area (SSA) of DZ with different particle

Table S1 Spearman's correlation analysis between degradation half-life of dazomet with different particle sizes and soil physico-chemical properties

| | $NH_4^+$-N | $NO_3^-$-N | AP | AK | OM | pH | EC | Clay | Silt | Sand | $t_{1/2}$(<100) | $t_{1/2}$(100-300) | $t_{1/2}$(300-400) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $NH_4^+$-N | | | | | | | | | | | | | |
| $NO_3^-$-N | 0.367 | | | | | | | | | | | | |
| AP | -0.006 | 0.694* | | | | | | | | | | | |
| AK | -0.070 | 0.609 | 0.992*** | | | | | | | | | | |
| OM | 0.143 | -0.495 | -0.969*** | -0.988*** | | | | | | | | | |
| pH | -0.164 | 0.375 | 0.927*** | 0.961*** | -0.988*** | | | | | | | | |
| EC | 0.548 | 0.583 | -0.177 | -0.289 | 0.415 | -0.529 | | | | | | | |
| Clay | -0.306 | 0.144 | 0.811** | 0.872** | -0.930*** | 0.969*** | -0.718 | | | | | | |
| Silt | 0.0020 | 0.696* | 0.999*** | 0.993*** | -0.968*** | 0.925*** | -0.176 | 0.811** | | | | | |
| Sand | 0.070 | -0.586 | -0.989*** | -0.999*** | 0.993*** | -0.969*** | 0.315 | 0.886** | 0.990*** | | | | |
| $t_{1/2}$(<100) | 0.235 | 0.926*** | 0.858** | 0.798** | -0.715* | 0.623 | 0.306 | 0.425 | 0.856** | 0.783* | | | |
| $t_{1/2}$(100-300) | -0.114 | -0.089 | 0.0423 | 0.049 | -0.072 | 0.088 | -0.135 | 0.114 | 0.031 | -0.0577 | 0.184 | | |
| $t_{1/2}$(300-400) | -0.255 | -0.949*** | -0.851** | -0.788* | 0.700* | -0.601 | -0.342 | -0.399 | -0.851** | 0.772* | 0.995*** | -0.114 | |
| $t_{1/2}$(>400) | -0.255 | -0.955*** | -0.854** | -0.796* | 0.708* | -0.604 | -0.335 | -0.406 | -0.859** | 0.778* | 0.944*** | 0.113 | 0.970*** |

Note: Asterisks indicate significant differences ($P < 0.05$): * $0.01 < P \leq 0.05$; ** $0.001 < P \leq 0.01$; ***$P \leq 0.001$.

Table S2 The specific surface area (SSA) of DZ with different particle

| | Specific surface area (SSA)/ $m^2/g$ | | | |
|---|---|---|---|---|
| | <100 | 100-300 | 300-400 | >400 |
| Content | 3.21 | 0.79 | 0.0059 | -0.071 |

## References


Fungicides. In: Roberts, T.R., Hutson, D.H. (Eds.), Metabolic Pathways of Agrochemicals. Royal Society of Chemistry, Cambridge, pp. 937–960.

Subramanian, P., Teesch, L., Thorne, P.S., 1996. Degradation of 3,5-dimethyl-tetrahydro- 2H-1,3,5-thiadiazine-2-thione in aqueous aerobic media. Environ. Toxicol. Chem. 15, 503–513.